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INSTEAD, IT CREATED A $2 BILLION WINDFALL.

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COVER PHOTOGRAPH BY MICHAEL PRINCE FOR FORBES
THIS PAGE BY JAMIE KRIPKE FOR FORBES


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IN BRIEF

The Audience of Tomorrow

BY LEWIS D'VORKIN

Atop London's Shard, native ads fly high.

DAVID WILLIAMS / GETTY IMAGES

It's been four years since I first crossed the Atlantic to talk with ad agencies and marketers about what is now called native advertising. I've always disliked the term. One word represents Internet jargon, the other implies a hard-core sales pitch. Before the birth of digital media, the preferred phrase was content marketing. Is that any better? I'm not sure, but it's closer to explaining what we're talking about: advertisers telling stories related to what they do without slavishly resorting to sales speak.

There's a Hatfield-McCoy atmosphere to it all. Journalists who dislike or distrust the idea stand firm on one side. Marketers looking for a new way to connect with consumers control the other. Publishers themselves make the conflict messier with labeling that can confuse the reader and shortcuts justified by their pressing need for revenue. Media reporters revel in the conflict. They grew up skeptical of all advertising (I did before my digital rebirth) and conflate things they shouldn't. Native is not an advertorial nor is it custom publishing, especially when publishers don't integrate the latter into the natural flow of editorial.

From the 32nd floor of the London Shard, I got a clear view of the city and the future of native advertising (let's just go with that label). In 2010 Charles Yardley, Forbes manager director of Europe, and I were considered aliens from outer space when talking about our BrandVoice native ad platform. This time, over a pre-Easter lunch, we got into a sophisticated discussion with a group of under-30 ad agency people. They brought up ethics, labeling, consumer opinion, marketer hurdles yet to overcome—and the need for native content to achieve a certain level of "editorial quality." They spoke as consumers and as representatives of a big oil company.

The growth of native advertising is unstoppable. Digital publishing created a content continuum—user-generated content on one side, marketer content on the other, and journalists and scores of experts in between. Increasingly, editorial and marketer content will live side by side, and that's okay with our Shard guests, the audience of tomorrow. Nomenclature will soon matter little. Actually, one word will cover it all: advertising.


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"With all thy getting, get understanding"

THE EUROPEAN UNION WILL IT DIE?

BY STEVE FORBES, EDITOR-IN-CHIEF

POLITICIANS, PUNDITS, economists and financiers are taking the attitude that a Greek exit from the euro zone would be no big deal, unlike the situation in 2011–12, when a Greek collapse would have dragged down much of the rest of the global financial system with it. Virtually the only private holders of Greek government debt these days are speculators. Everyone has had time to prepare for "a Grexit" and is ready for it. Such a move would, perversely, be welcomed by European governments: The misery it would cause Greece would be an object lesson for their own voters of what happens when you elect extremist parties with siren songs about shucking off austerity measures and promising bigger giveaways.

While it may be true that the economic damage of a Greek collapse would largely be confined to Greece itself, it nonetheless would undermine the great post-WWII dream of a united Europe that would never experience another catastrophic war. What's taken place since the late 1940s has been remarkable, particularly the creation of the euro.

True, there have always been the tensions that come from Europe's statist mentality, whereby continental initiatives too often have been forced from the top down, with scant regard for the public's concerns. This has fueled the rise of extremist parties. The European Commission in Brussels is a bureaucratic monstrosity that spews smothering, ludicrous regulations—what is a banana?—and is all too prone to corruption.

Even so, until this year a European war on the scale of those experienced in the last century—not to mention every century before that—has been utterly inconceivable.

Thanks to remarkably bad leadership, Europe's post-WWII order is in mortal danger, threatening unimaginable political and economic repercussions. The problem isn't Greece, per se, or Putin's depredations in Ukraine and Crimea. The problem is that European leaders don't know what to do. Not since the 1930s has the ruling class seemed so helpless, where events seem to be so out of control. FORBES columnist David Malpass notes on page 32 that ever since the 2008 financial crisis governments have imposed austerity largely on the private sector through more taxes and more growth-killing rules. As in Greece, government services may be cut—but the government itself gets bigger or is left largely untouched while everyone else suffers. The only notable exception is Great Britain, which, under the incumbent government, has cut about a million jobs from its bloated public sector. This measure, combined with cuts in the corporate tax rate to 20% (the U.S. rate is almost 40%) and a minor cut in the top income tax rate from 50% to 45%, has enabled the U.K.'s economy to grow faster than those of just about everyone else.

Governments aren't the only guilty parties. Central banks have made it difficult for banks to lend robustly to the private sector.

Europe has experienced little of the internal structural reforms that would unleash vigorous, job-creating growth and save the European experiment that rose from the ashes of WWII. The sad fact is, Europe can't save itself.

The U.S. will have to perform that task again, not on the beaches of Normandy but through the power of positive example once we elect a new President in two years. Ronald Reagan showed us how to do this with his reforms during the 1980s. These were quickly emulated by other countries, which led not only to global prosperity but also to victory in the Cold War, which, in turn, unleashed even more prosperity around the world.

Big Man For A Big Job

Translate the word "Greece" into English, goes the joke, and you'll get "Illinois." The Land of Lincoln is indeed the most fiscally dysfunctional state in the nation and has the worst credit rating among the 50 states. Its public

SF and Governor Rauner at Forbes' Reinventing America Summit.

employee pension systems are wracked with abuses (at last count there were more than 11,000 retirees who each draw more than $100,000 a year) and are proportionally the country's most underfunded. The state's budget deficit *this* fiscal year is running at $1.6 billion; next year it's projected to be $6.2 billion. In addition, the state is sitting on unpaid bills in excess of $6 billion. Its unemployment and worker compensation programs are both a mess, which is especially hurtful to small businesses. Illinois is arguably our most corrupt state: Four of its nine previous governors have gone to the slammer. Not surprisingly, the state has the worst job creation in the Midwest.

Roaring into this massive morass as Illinois' new chief executive is a former venture capitalist turned radical reformer, Bruce Rauner. That a Republican could win the governorship in Barack Obama's deep blue state is testament to the state's distress. Democrats may still hold supermajorities in both houses of the legislature, but, with the force of a Paul Bunyan, Rauner is acting as if the opposite were true. He is vigorously and unapologetically pushing forward with changes on every front.

Upon taking the oath of office Rauner signed an executive order ending mandatory union dues for those state workers who don't want to join a union or support its political agenda. His new budget includes big spending cuts, such as reductions in state aid to localities and outlays for Medicaid. (There's one exception: Money for K–12 would go up $300 million.) He also wants to cut taxes, freeze property taxes (and ultimately have local voters approve them), bar public employee unions from making political contributions, and allow local jurisdictions to adopt right-to-work laws in order to help attract businesses.

The governor's biggest and most controversial proposal is a drastic change in the state's pension laws. Mild reforms adopted last year are under constitutional challenge in the state's Supreme Court (Illinois' constitution bars any diminution in government pension benefits). But Rauner believes his plan will pass muster: All benefits earned to date would be retained; going forward, funds for employee pensions, excluding those of police officers and firefighters, would be put into 401(k)-like plans.

Rauner is also pushing to get several referendums before the voters (the legislature has to approve these), including term limits and limits on damages awarded in lawsuits.

The governor appeared at the Forbes Reinventing America Summit in March. No one came away from that interview doubting his resolve or sincerity. When I asked him about criticism that he's taking on too much, especially in fighting unions that have immense influence with Democratic state legislators, he responded: "Structural reforms and fighting the unions are inseparable. If all we do is get a balanced budget and modernize our tax code without changing the structure, the next governor after me—and believe me, we're gonna get some other Blagojeviches [Rod Blagojevich is a former governor serving a 14-year sentence in federal prison for corruption] because Illinois is good at bringin' those kinda people—our budget will be blown out again. It'll be back in massive deficit again."

The financial outlook for beleaguered Chicago? He replied that it will go bankrupt. The unions won't allow needed changes.

Can Rauner cut down the opposition as Paul Bunyan chopped down trees? He may well get a lot of what he wants. As a fig leaf for legislators to approve hefty parts of his package, the governor could, for instance, allow a small increase in the state's 3.75% income tax to, say, 4%. (It's already down from 5%.) Many Democrats know that Illinois should not be a deadbeat pauper. As Governor Rauner declared, "We have the hardest-working people in America. We have the best location of any state. We have the most fertile farms. And we have some of the best infrastructure and many of the greatest universities in the world. We have every reason to thrive."

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GLEN DAVIS

Reinventing Retirement

Passing Your Legacy On to Multiple Generations

BY NORTHWESTERN MUTUAL

Baby Boomers are reinventing retirement. Rather than winding down and stepping to the sidelines, many of today's retirees see retirement as a "second act"—a time to enjoy the financial security they've built, and an opportunity to share that wealth with their loved ones. And, unlike their grandparents, who typically spent years, not decades, in retirement, Boomers are the first generation that can count on living well into their 80s and even longer. Along with longer lives comes another challenge: the need to rethink estate planning from the perspective of a multigenerational family.

At Northwestern Mutual, we believe everyone should have a financial plan, which may include an estate plan that takes into account both your needs and those of your family. Your plan should also be designed to pass your wealth on to your heirs in the most efficient way possible.

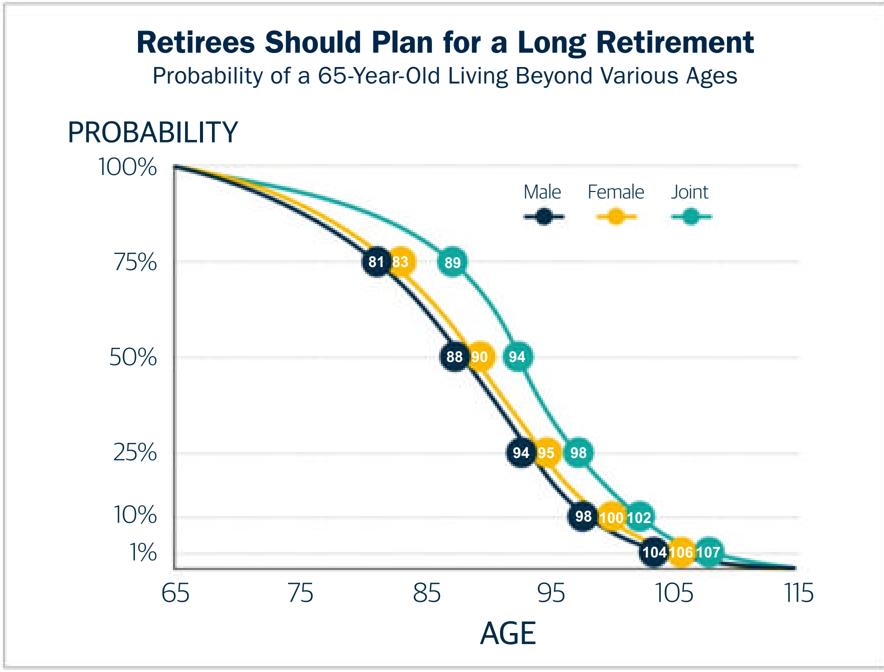
Like many parents, your goal may be to leave your children your assets. However, since we're living longer, when the time comes to pass along your wealth, your children could easily be on the cusp of retirement, likely sitting on the most money they have ever had. By passing all your wealth outright to them at this time, you could unknowingly leave them with a potential and unexpected tax burden if you or your children have a large enough estate. You can avoid this by creating an estate plan that passes your wealth to multiple generations by using a trust.

A multigenerational trust enables you to create a legacy for family members over several generations while providing potential income, estate and generation-skipping tax benefits. It also enables you to determine when and how your beneficiaries will receive their money. You can establish this trust during life or at the time of your death.

Many people like to use life insurance to fund a multigenerational trust because it provides legacy and tax benefits for their children and grandchildren without significantly repositioning existing assets during life.

Another option to consider is making additional gifts to family while you're alive. You might consider things like funding education for grandchildren, or paying for things like life insurance for grandchildren or even great-grandchildren. Finally, consider spending your money on big experiences. Your family may be more appreciative of a big family trip while you're still alive rather than getting a bigger pot of money after you're gone.

It's important to work with a professional who has a comprehensive view of your financial situation, as well as that of your heirs. A Northwestern Mutual financial professional can help you identify the most effective way to pass your legacy on to your heirs. That may include passing your wealth along to multiple generations after you die, and making long-lasting memories with your loved ones while you are living.



Annuity 2012 table with mortality enhancements determined using projection scale G2

A multigenerational trust enables you to create a legacy for family members over several generations while providing potential income, estate and generation-skipping tax benefits.

For more insights and ideas from Northwestern Mutual, visit www.forbes.com/northwesternmutual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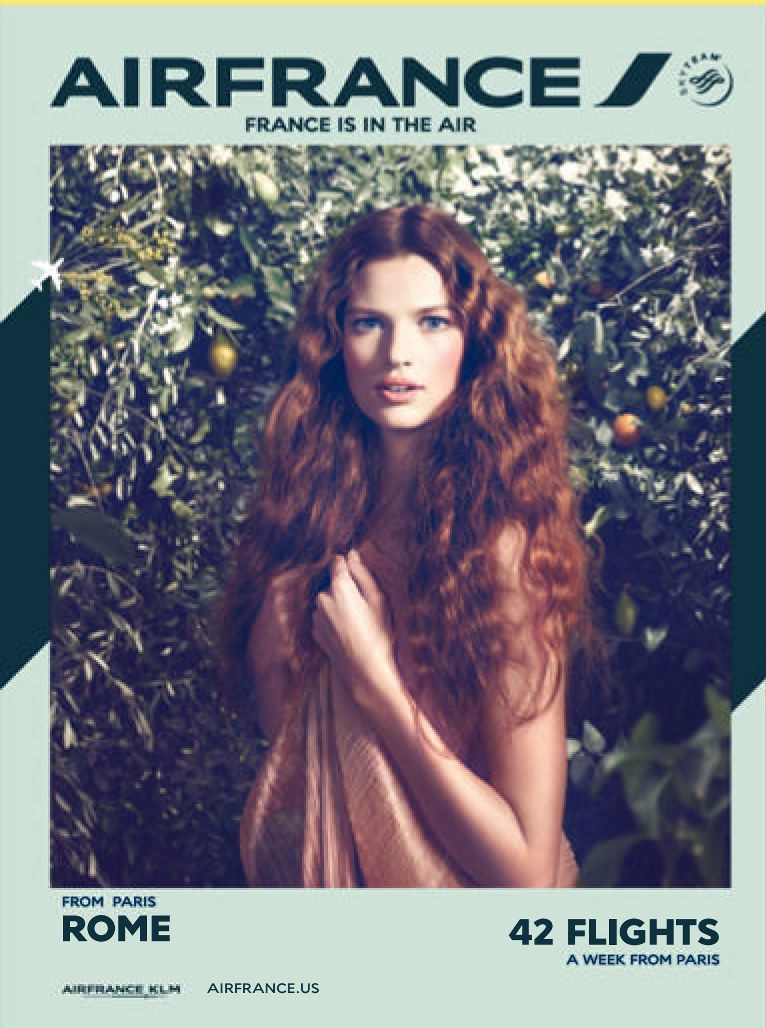
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OVER
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A WEEK FROM USA

LeaderBoard May 4, 2015

San Diego real estate mogul Conrad Prebys owns 7,100 properties in southern California—and some impressive art, including José de Ribera's "Mary Magdalene Meditating in the Desert" (c. 1640). He debuts on our list of world billionaires.

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DAVID HARRY STEWART FOR FORBES

LUXURY LINEAGE

Continental Shift

Elvis, Liz Taylor and the Godfather of Soul: Ford's reintroduced Lincoln classic has had quite a history.

THIRTEEN YEARS after the last Continental rolled off the assembly line, Lincoln brought its former flagship model out of retirement at the 2015 New York International Auto Show. Labeled as a "concept," the new Lincoln Continental comes with plenty of power (a 3.0-liter twin-turbo V6 engine) and an array of posh interior perks (including reclining rear seats and a champagne bottle holder). Aimed at both the American and Chinese markets, the Continental will likely go from concept to reality in 2016—77 years after it debuted.

1940

Commissioned in 1938 by Edsel Ford to be his personal vehicle, the first Continental was introduced in 1939. With a long, elegant hood covering a powerful but quiet V12, the early Continental was so modern that Frank Lloyd Wright called the 1940 "the most beautiful car ever designed." (He bought two.)

1961

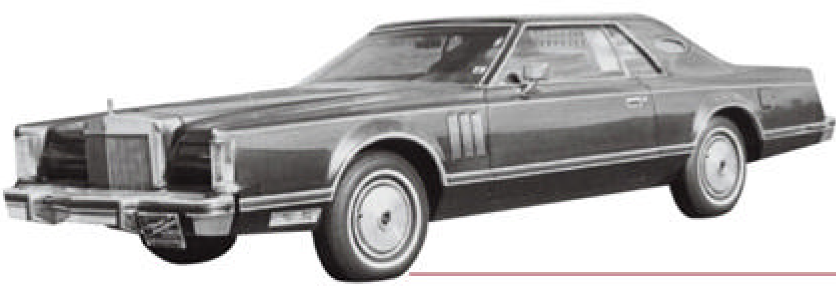
When John F. Kennedy was assassinated, he was riding in a modified '61 Lincoln Continental (code-named "X-100") with signature egg-crate grille and rear-opening "suicide doors." It featured a telephone and a rear seat that could be raised 10 inches—yet the vehicle wasn't armored. Astonishingly, this infamous model wasn't retired from presidential duty until 1977.

1969

James Brown, naturally, traveled in style—which meant a Learjet 23 and a '69 Lincoln Continental Mark III. Four years later another Brown—Jim Croce's "Bad, Bad Leroy Brown"—chose similar wheels: a "custom Continental" (and "an Eldorado, too").

1977

Lincoln debuted the Continental Mark V, a larger luxury vehicle with sharper lines and a vinyl half-roof. Jock Ewing drove this road beast on *Dallas,* and just to make it even fancier, Lincoln offered designer editions by Bill Blass and Givenchy.

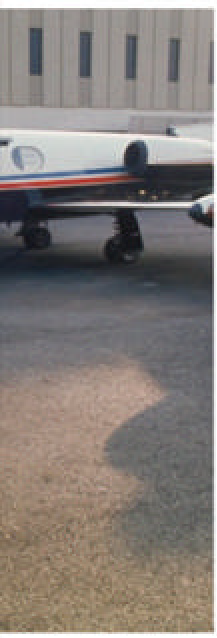


1946

When U.S. auto production resumed after World War II, the Continental got a bold new grille and a majestic hood that still housed a V12. When the Indy 500 resumed that year as well, a '46 Continental was the pace car.

1956

Ford introduced the luxurious Continental Mark II, at $10,000 one of the world's most expensive cars. This was what Elvis and Sinatra drove, and when Warner Bros. wanted to thank Elizabeth Taylor for making *Giant,* the studio gave her a Mark II in a custom color that matched her eyes.



1992

In the '80s the Continental got smaller and less angular, and by 1992 (when the Mark VIII debuted) its rounded design was no longer distinguishable from other luxury sedans, including the Lincoln Town Car. In 2002 the Continental was discontinued.

2015

In April, when Lincoln unveiled the Continental concept in New York, its design was clearly intended to restore the brand's glamour—but Bentley accused Ford of ripping off its look. "I would have called it Flying Spur concept," Bentley chief designer Luc Donckerwolke sideswiped on Facebook, referring to his company's iconic sedan. Ford's styling chief, David Woodhouse, honked back: "I like our car better."

BY MICHAEL SOLOMON

1940: TEDDY PIEPER © COURTESY OF AUCTIONS AMERICA; 1946: KIMBALL STUDIOS/USED COURTESY PEBBLE BEACH CONCOURS D'ELEGANCE; 1956: TOMMASO BODDI/WIREIMAGE/GETTY IMAGES; 1961: BETTMANN/CORBIS; 1969: JAMES BROWN: JULIAN WASSER/THE LIFE IMAGES COLLECTION/GETTY IMAGES; 1977: DENVER POST/GETTY IMAGES

For people with a higher risk of stroke due to Atrial Fibrillation (AFib) not caused by a heart valve problem

I won't accept going for less than my personal best.

ELIQUIS® (apixaban) is a prescription medicine used to reduce the risk of stroke and blood clots in people who have atrial fibrillation, a type of irregular heartbeat, not caused by a heart valve problem.

IMPORTANT SAFETY INFORMATION:

- **Do not stop taking ELIQUIS for atrial fibrillation without talking to the doctor who prescribed it for you. Stopping ELIQUIS increases your risk of having a stroke.** ELIQUIS may need to be stopped, prior to surgery or a medical or dental procedure. Your doctor will tell you when you should stop taking ELIQUIS and when you may start taking it again. If you have to stop taking ELIQUIS, your doctor may prescribe another medicine to help prevent a blood clot from forming.
- **ELIQUIS can cause bleeding, which can be serious,** and rarely may lead to death.
- **You may have a higher risk of bleeding if you take ELIQUIS and** take other medicines that increase your risk of bleeding, such as aspirin, NSAIDs, warfarin (COUMADIN®), heparin, SSRIs or SNRIs, and other blood thinners. **Tell your doctor about all medicines, vitamins and supplements you take.**

While taking ELIQUIS, you may bruise more easily and it may take longer than usual for any bleeding to stop.

- Get medical help right away if you have any of these signs or symptoms of bleeding:
  - unexpected bleeding, or bleeding that lasts a long time, such as unusual bleeding from the gums; nosebleeds that happen often, or menstrual or vaginal bleeding that is heavier than normal
  - bleeding that is severe or you cannot control
  - red, pink, or brown urine; red or black stools (looks like tar)
  - coughing up or vomiting blood or vomit that looks like coffee grounds
  - unexpected pain, swelling, or joint pain; headaches, feeling dizzy or weak
- **ELIQUIS is not for patients with artificial heart valves.**

IMPORTANT FACTS about ELIQUIS® (apixaban) tablets

℞ ONLY

The information below does not take the place of talking with your healthcare professional. Only your healthcare professional knows the specifics of your condition and how ELIQUIS may fit into your overall therapy. Talk to your healthcare professional if you have any questions about ELIQUIS (pronounced ELL eh kwiss).

What is the most important information I should know about ELIQUIS (apixaban)?

For people taking ELIQUIS for atrial fibrillation: Do not stop taking ELIQUIS without talking to the doctor who prescribed it for you. Stopping ELIQUIS increases your risk of having a stroke. ELIQUIS may need to be stopped, prior to surgery or a medical or dental procedure. Your doctor will tell you when you should stop taking ELIQUIS and when you may start taking it again. If you have to stop taking ELIQUIS, your doctor may prescribe another medicine to help prevent a blood clot from forming.

ELIQUIS can cause bleeding which can be serious, and rarely may lead to death. This is because ELIQUIS is a blood thinner medicine that reduces blood clotting.

You may have a higher risk of bleeding if you take ELIQUIS and take other medicines that increase your risk of bleeding, such as aspirin, nonsteroidal anti-inflammatory drugs (called NSAIDs), warfarin (COUMADIN®), heparin, selective serotonin reuptake inhibitors (SSRIs) or serotonin norepinephrine reuptake inhibitors (SNRIs), and other medicines to help prevent or treat blood clots.

Tell your doctor if you take any of these medicines. Ask your doctor or pharmacist if you are not sure if your medicine is one listed above.

While taking ELIQUIS:

- you may bruise more easily
- it may take longer than usual for any bleeding to stop

Call your doctor or get medical help right away if you have any of these signs or symptoms of bleeding when taking ELIQUIS:

- unexpected bleeding, or bleeding that lasts a long time, such as:
  - unusual bleeding from the gums
  - nosebleeds that happen often
  - menstrual bleeding or vaginal bleeding that is heavier than normal
- bleeding that is severe or you cannot control
- red, pink, or brown urine
- red or black stools (looks like tar)
- cough up blood or blood clots
- vomit blood or your vomit looks like coffee grounds
- unexpected pain, swelling, or joint pain
- headaches, feeling dizzy or weak

ELIQUIS is not for patients with artificial heart valves.

Spinal or epidural blood clots (hematoma). People who take a blood thinner medicine (anticoagulant) like ELIQUIS, and have medicine injected into their spinal and epidural area, or have a spinal puncture have a risk of forming a blood clot that can cause long-term or permanent loss of the ability to move (paralysis). Your risk of developing a spinal or epidural blood clot is higher if:

- a thin tube called an epidural catheter is placed in your back to give you certain medicine
- you take NSAIDs or a medicine to prevent blood from clotting
- you have a history of difficult or repeated epidural or spinal punctures
- you have a history of problems with your spine or have had surgery on your spine

If you take ELIQUIS (apixaban) and receive spinal anesthesia or have a spinal puncture, your doctor should watch you closely for symptoms of spinal or epidural blood clots or bleeding. Tell your doctor right away if you have tingling, numbness, or muscle weakness, especially in your legs and feet.

What is ELIQUIS?

ELIQUIS is a prescription medicine used to:

- reduce the risk of stroke and blood clots in people who have atrial fibrillation.
- reduce the risk of forming a blood clot in the legs and lungs of people who have just had hip or knee replacement surgery.
- treat blood clots in the veins of your legs (deep vein thrombosis) or lungs (pulmonary embolism), and reduce the risk of them occurring again.

It is not known if ELIQUIS is safe and effective in children.

Who should not take ELIQUIS?

Do not take ELIQUIS if you:

- currently have certain types of abnormal bleeding
- have had a serious allergic reaction to ELIQUIS. Ask your doctor if you are not sure

What should I tell my doctor before taking ELIQUIS?

Before you take ELIQUIS, tell your doctor if you:

- have kidney or liver problems
- have any other medical condition
- have ever had bleeding problems
- are pregnant or plan to become pregnant. It is not known if ELIQUIS will harm your unborn baby
- are breastfeeding or plan to breastfeed. It is not known if ELIQUIS passes into your breast milk. You and your doctor should decide if you will take ELIQUIS or breastfeed. You should not do both

Tell all of your doctors and dentists that you are taking ELIQUIS. They should talk to the doctor who prescribed ELIQUIS for you, before you have **any** surgery, medical or dental procedure.

Tell your doctor about all the medicines you take, including prescription and over-the-counter medicines, vitamins, and herbal supplements. Some of your other medicines may affect the way ELIQUIS (apixaban) works. Certain medicines may increase your risk of bleeding or stroke when taken with ELIQUIS.

How should I take ELIQUIS?

Take ELIQUIS exactly as prescribed by your doctor. Take ELIQUIS twice every day with or without food, and do not change your dose or stop taking it unless your doctor tells you to. If you miss a dose of ELIQUIS, take it as soon as you remember, and do not take more than one dose at the same time. **Do not run out of ELIQUIS. Refill your prescription before you run out.** When leaving the hospital following hip or knee replacement, be sure that you will have ELIQUIS available to avoid missing any doses. **If you are taking ELIQUIS for atrial fibrillation, stopping ELIQUIS may increase your risk of having a stroke.**

What are the possible side effects of ELIQUIS?

- See **"What is the most important information I should know about ELIQUIS?"**
- ELIQUIS can cause a skin rash or severe allergic reaction. Call your doctor or get medical help right away if you have any of the following symptoms:
  - chest pain or tightness
  - swelling of your face or tongue
  - trouble breathing or wheezing
  - feeling dizzy or faint

Tell your doctor if you have any side effect that bothers you or that does not go away.

These are not all of the possible side effects of ELIQUIS. For more information, ask your doctor or pharmacist.

Call your doctor for medical advice about side effects. You may report side effects to FDA at 1-800-FDA-1088.

This is a brief summary of the most important information about ELIQUIS. For more information, talk with your doctor or pharmacist, call 1-855-ELIQUIS (1-855-354-7847), or go to www.ELIQUIS.com.

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Based on 1289808A1 / 1289807A1 / 1298500A1 / 1295958A1
August 2014
432US14BR00770-07-01

LeaderBoard

BOB PARSONS

+$250 MILLION

NET WORTH: $2.1 BILLION

GoDaddy, go, go, go: His Web-hosting firm, known for its controversial Super Bowl ads, raced out of the IPO gate, jumping 25% since its March listing.

NEW BILLIONAIRES

California Dreamer

Property developer Conrad Prebys finds the promised land in San Diego.

BORN BLUE-COLLAR in South Bend, Ind., Conrad Prebys seemed destined for a life working in a local Studebaker or Bendix factory. But a heart condition he developed at age 8 spared him from a career in manual labor. The Indiana University graduate is now 81—and a billionaire, having made his fortune renting apartments to San Diego's striving middle class.

He moved to San Diego in 1965 and cofounded Progress Construction to get in on the city's building boom. He bought out his partner in 1980 and within a decade came to realize he could make more as an owner than he could as a builder: He now owns 81 properties totaling 7,099 units in greater San Diego—holdings conservatively worth $1 billion, net of debt.

Prebys keeps rents manageable—$1,845 for a two-bedroom just blocks from the beach; no more than $1,150 for two beds in eastern San Diego County. Overhead is low as well; vacancy rates are near zero. His CFO says the properties throw off some $4 million a month in cash. Prebys—who tells FORBES he's "the luckiest man in the world"—lives modestly, eschewing yachts and private jets and dining at small local establishments.

His main indulgences: philanthropy and the arts. Prebys is producing *Doctor Zhivago,* which opened on Broadway Apr. 21, and over the years he has donated generously to San Diego institutions: $45 million to Scripps Health hospitals, $20 million to San Diego State University and $15 million to the city's famous zoo.

FIRST WORLD PROBLEMS

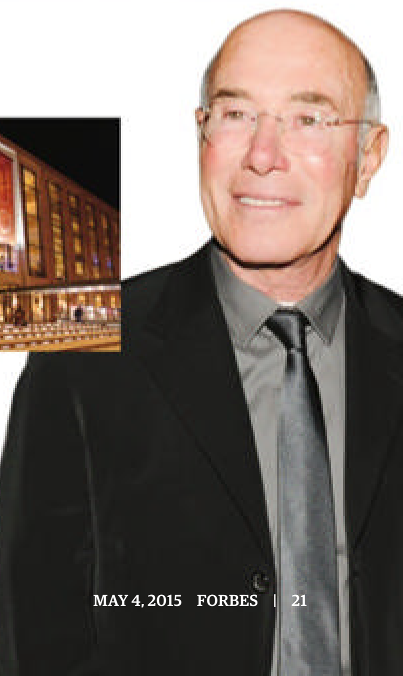
Running Out of Buildings to Name After Yourself

VAIN? WEALTHY AS ALL HECK? It's increasingly hard out there for a philanthropist with a narcissistic streak to find a notable establishment on which to tattoo his name in granite. Still, solutions are at hand.

BUY 'EM OUT. In March David Geffen pledged $100 million to Lincoln Center to help renovate Avery Fisher Hall. The crucial aspect of the makeover: kicking Avery Fisher, the electronics pioneer who gave $10.5 million to the home of the New York Philharmonic in 1973, off the nameplate. After a $15 million payoff to Fisher's heirs, the space will be known as David Geffen Hall. At least for now.

SPECIALIZE. If all the good major cultural institutions are taken, maybe you can find a needy regional medical center. A $75 million gift this February to San Francisco General Hospital ensured that it (and a new wing being built) will henceforth be known as the Priscilla and Mark Zuckerberg San Francisco General Hospital & Trauma Center. Be sure to "like" your next colonoscopy!

THINK SMALLER. Retired venture capitalist Jerome Stern and his wife, Ellen, immortalized themselves at the New Museum of Contemporary Art on New York's Lower East Side by donating some $100,000 to have the facility's restrooms named for them. Six figures for toilets on the Bowery? Where there's a will, there's a way.



NEW BILLIONAIRE BY KERRY A. DOLAN; FIRST WORLD PROBLEMS BY BRIAN DAWSON
ALL FIGURES AT THE TOP OF THIS AND SUBSEQUENT PAGES REPRESENT CHANGES IN WEALTH BETWEEN MAR. 17 AND APR. 7. SOURCES: INTERACTIVE DATA VIA FACTSET RESEARCH SYSTEMS; FORBES. **PHOTOGRAPHS:** DAVID HARRY STEWART FOR FORBES; CHARLEY GALLAY/GETTY IMAGES (TOP); BILLY FARRELL/SIPA USA/NEWSCOM; TOMAS ABAD/NEWSCOM (BOTTOM)

LeaderBoard

BELK FAMILY

+$730 MILLION

NET WORTH: $2.3 BILLION

The South's first family of retail mulls sale of its department store chain. Suitors, including Macy's and Nordstrom, likely to pay $4 billion for it.

FORBES MAKEOVER

Apple's Jony Ive

Our experts give the tech-design legend occasion-specific outfits as sleek as his newly released timepiece.

DINNER AT CHEZ PANISSE

A man's gotta turn heads at Alice Waters' Berkeley-locavore feed trough. Plus, Jony can spill his fair-trade marinated beets all over his lap and not ruin his trousers.

JA: Men don't always look good in red, but this is both flamboyant and fun.

THE "AFTER" IMAGES ARE SIMULATED IMAGES OF WHAT JONY IVE WOULD LOOK LIKE IF HE HAD ACTUALLY PARTICIPATED IN THE FORBES MAKEOVER, WHICH HE DID NOT. NOR DOES HE ENDORSE ANY PRODUCTS PICTURED HERE.

BOARD PRESENTATION

Apple bigwigs conga around the conference table through a mass of $100 bills as tall and thick as board member Al Gore. Jony sports a three-piece, a contrast collar and (of course) sunglasses, cradled just so. Always the sunglasses, cradled just so.

KI: A bold 21st-century reinvention of the man in the gray flannel suit.

TEDx SCHENECTADY

Attendees are floored by their surprise speaker. *Heeere's* ... Jony, in an elegantly tailored suit and a shirt the color of a 1984 Mac screen.

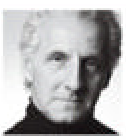
KI: The sheen, the lapels, the notching all show tuxedo inspiration.

COOKOUT AT COOK'S

Jony heads to CEO Tim's spread, excited to try the boss' famous vegetarian scramble. Smartly, he adds layers for the postprandial Apple Watch 2, 3 and 4 strategy session around the fire pit.

JA: Nicely dressed for a casual occasion with creative tans, grays and blues.

THE EXPERTS



JOSEPH ABBOUD

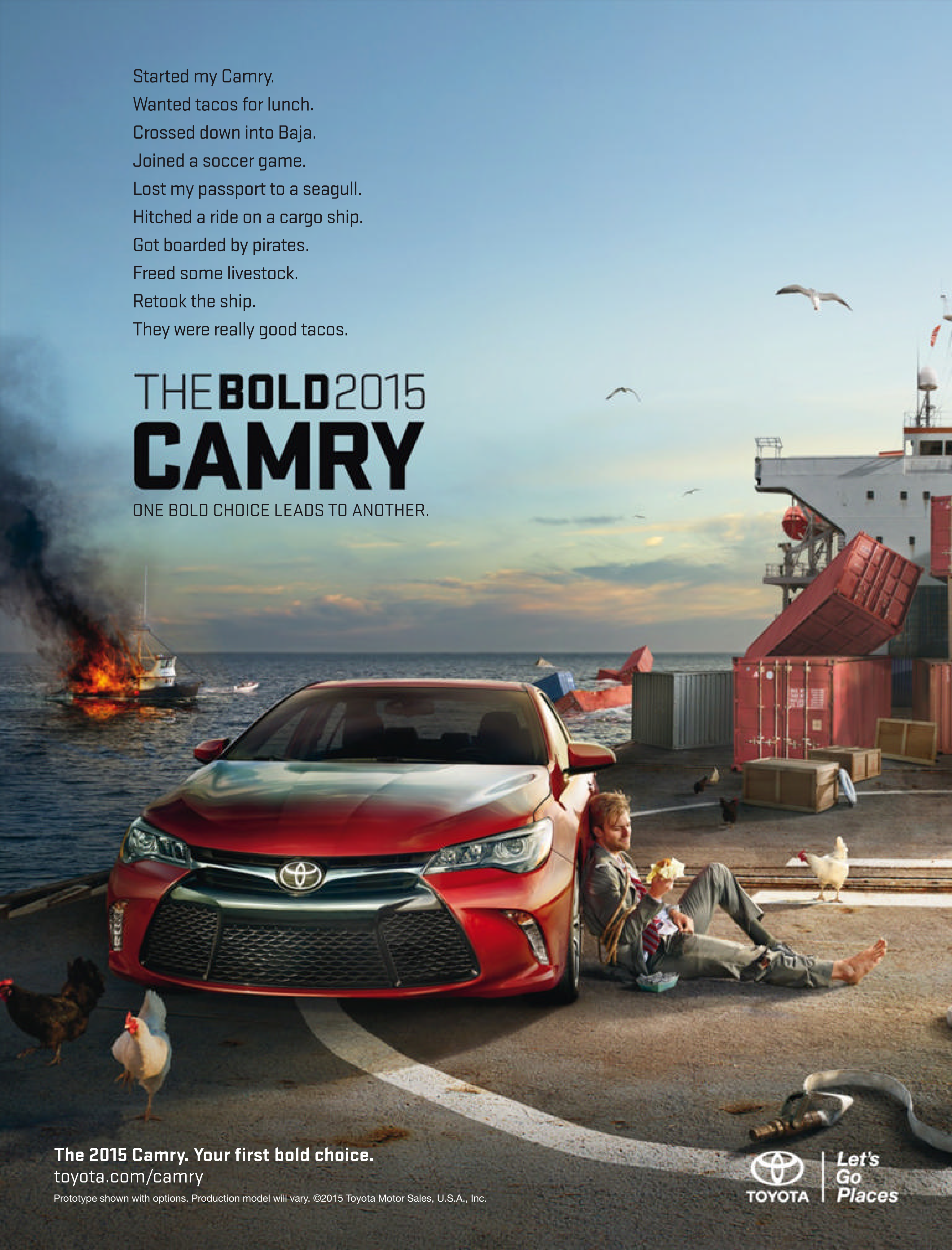
The award-winning designer and entrepreneur launched his namesake brand in 1987 and is currently the chief creative director for Men's Wearhouse.

KATHY IRELAND

The supermodel turned supermogul is the chief executive and chief designer of kathy ireland Worldwide, a design and marketing firm she launched in 1993.

STYLE DIRECTOR: JOSEPH DEACETIS; PHOTOGRAPHER: CAMERON R. NEILSON; FASHION ASSOCIATE: JUAN BENSON

CHEZ PANISSE: BLUE PLAID 96% CASHMERE, 4% SILK UG81 BLAZER ($7,983), PURPLE POCKET SQUARE ($220), PLAID DRESS SHIRT ($860), RUSTED ORANGE JEANS ($1,120) AND BROWN LEATHER DRESS SHOES ($3,200) ALL BY KITON; WWW.KITON.IT. COOKOUT: NYLON WOOL BLOUSON ($1,165), NEW WOOL FULL ZIP SWEATER ($600), ROYAL FLANNEL BUTTON-DOWN SHIRT ($320), YACHTING COLLECTION TROUSER ($210) ALL BY PAUL & SHARK; WWW.PAULSHARK.IT. GREY/BLACK HIGH-TOP SNEAKERS ($458) BY STONE ISLAND, WWW.STONEISLAND.COM. BOARD PRESENTATION: BROOKS WINDOWPANE SUIT ($950), WINDOWPANE SLIM VEST ($245), SPREAD COLLAR NAVY SHIRT ($155), SQUARE NAVY TIE ($125) ALL BY DANIEL CREMIEUX, WWW.DANIELCREMIEUX.COM, AVAILABLE AT 65 MERCER ST. 212-343-3838, SOHO@CREMIEUXUSA.COM. BROWN ROCKIT WING OX, DISTRESSED MILL LEATHER SHOES 15083-200 ($120) BY FLORSHEIM; WWW.FLORSHEIM.COM. TEDX: NAVY PEAK LAPEL SINGLE-BREASTED SUIT ($3,395) AND GREY FLANNEL DRESS SHIRT ($345) ALL BY ERMENEGILDO ZEGNA, AVAILABLE AT SELECT ERMENEGILDO ZEGNA BOUTIQUES, WWW.ZEGNA.COM; BLACK MILLPORT, CALF LEATHER SHOES 12065-001 ($170) BY FLORSHEIM; WWW.FLORSHEIM.COM.


Started my Camry.
Wanted tacos for lunch.
Crossed down into Baja.
Joined a soccer game.
Lost my passport to a seagull.
Hitched a ride on a cargo ship.
Got boarded by pirates.
Freed some livestock.
Retook the ship.
They were really good tacos.
THE BOLD 2015
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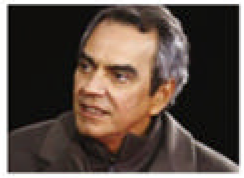
toyota.com/camry
Prototype shown with options. Production model will vary. ©2015 Toyota Motor Sales, U.S.A., Inc.
TOYOTA
Let's Go Places

LeaderBoard

ENRIQUE RAZON
+KOREAN ISLAND
NET WORTH: $4.7 BILLION
His Bloomberry Resorts is set to buy Silmi, a 52-acre rock just off Inchon—its second projected island purchase (for hotels and casinos, presumably) this year.



EXECUTIVE INTEL // HUMAN CAPITAL

Nearly Departed

Want to keep key employees from leaving? Big data is your best ally.

YOUR STAR STAFFER is about to jump ship. Your ace in the hole: You know it even before he does. Today big firms such as Wal-Mart, Credit Suisse, Yahoo and Nissan rely on big data and a statistical discipline called "predictive analytics" to determine who's likely to bail out.

Specialists in the burgeoning field include Workday, VoloMetrix and Visier, which have identified dozens of telltale signs that folks are about to quit. Some of the biggies:

A RECENT PROMOTION. Beware: Many people leverage that sexy new title and fatter paycheck for an even better job elsewhere.

AVOIDING MEETINGS WITH PEOPLE NOT ON THEIR IMMEDIATE TEAM. Why make new work buddies when you've got one foot out the lobby door?

OPTING OUT OF COMPANY BENEFITS. Found an alternative to the company health plan covering Junior's inhaler and acne cream? Then you don't need the job as much, either.

Cheap Frills

These benefits seem overly generous but won't cost your company much at all.

UNLIMITED VACATION. Netflix, Zynga, Groupon and software developer VMWare impose no limits on employee vacation time. Mass staff exodus to Tahiti? Hardly. A 2014 Glassdoor survey found that more than half of U.S. workers don't use all their current paid vacation as it is.

THREE-DAY WEEKENDS EVERY WEEK. Treehouse, a Portland, Ore.-based coding and app-design online school with 90 employees, is closed Fridays. Others—Philadelphia marketing shop Beholder and Chicago workflow specialist Basecamp among them—do the same all summer. Says Treehouse CEO Ryan Carson, "We just work smarter instead of longer."

DOGGIE DAY CARE. Google, Amazon and Ben & Jerry's let staffers bring Fido to work—an officewide stress reducer, according to a 2012 study in the *International Journal of Workplace Health Management.*

How Much Is That Banker in The Window?

What it costs to replace top talent.

"ERIN X.," a 42-year-old, $340,000-a-year director in the investment-management division of Big Boffo Bank's Manhattan office, up and quits. (Next time: Use predictive analytics! Yeesh.)

Human resources data firm Visier estimates that Big Boffo will spend at least three months and 1.5 times Erin's salary—more than a half-million bucks—to replace her. Where does it go? In addition to HR costs and pricey managerial distraction, there's unused vacation time and headhunter fees. Plus Erin's replacement could demand more money, and Big Boffo should expect six months of lower productivity as its new hire gets her sea legs.

BY SUSAN ADAMS
CHRISTOPH HITZ; SIMON DAWSON/BLOOMBERG (TOP)

LeaderBoard

JORGE PAULO LEMANN

+$1.1 BILLION

NET WORTH: $23.6 BILLION

Every Whopper needs ketchup and cheese: Lemann's 3G (which controls Burger King) and Warren Buffett team up on Heinz-Kraft merger.

30 UNDER 30

Gear Turners

Manufacturing marvels from the FORBES 30 Under 30, in 30 words or less.

Tomas Garces

FIRSTBUILD | 28

Engineer Garces designs the future of consumer appliances at this GE/Local Motors–funded microfactory. Consumers pitch new concepts and improvements to toaster ovens and dishwashers; FirstBuild bangs them out.

Chris Haid

NVBOTS | 23

His fully automated 3-D printers work 24/7 virtually free from human intervention. Subscribers simply upload a file and watch real-time video of their creations being made.

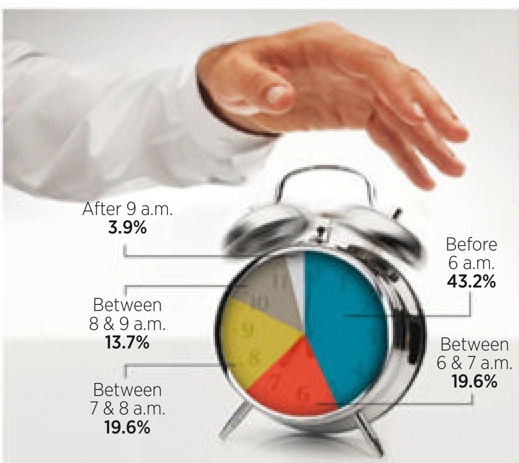
Gary Kurek

KUGAR, INC. | 23

Thiel Fellowship recipient Kurek is working to design manufacturing machinery that can be easily installed and maintained by nonengineers at his San Francisco–based startup.

ASK 50 BILLIONAIRES

What Time Do You Usually Wake Up?



AMERICA'S RICHEST FAMILIES

The Great Getty Curse

The terrible and twisted saga of J. Paul Getty's progeny.

ON MAR. 31 Andrew Rork Getty, 47, grandson of oil baron J. Paul Getty (above, once the richest man in the world), was found dead in his Beverly Hills home, reportedly naked from the waist down in a pool of blood. The grim scene was the latest in a too-strange-for-fiction series of family tragedies. To recap:

ADULTERY Getty's third son, J. Paul Jr., moves to Italy in the early '60s with his wife, Gail Harris, to run Getty Oil's European operations. In 1966 he leaves her and their four kids for Dutch actress Talitha Pol.

DRUGS Pol dies of a heroin overdose in 1971.

ABDUCTION J. Paul III, 16, is kidnapped in Rome in July 1973. His abductors demand $16 million. Gail Harris pleads with the family patriarch, who blithely responds, "I have 14 grandchildren. If I pay one penny now, I'll have 14 kidnapped grandchildren."

SLICED EAR Tired of ransom negotiations, the kidnappers cut off J. Paul III's right ear (and a lock of hair) and mail them to a Rome newspaper. The family pays a reduced ransom: $3 million.

USURY Three-fourths of that $3 million ransom is paid by J. Paul directly. He lends the remainder to his son—at 4% interest.

BRAIN TRAUMA In 1981 Studio 54-style partier J. Paul III suffers a drug-induced stroke at age 25 that leaves him paraplegic and partially blind.

SECRET DOUBLE LIFE In 1999 J. Paul's son Gordon—No. 1 on The Forbes 400 in 1983 and long thought to be the family's straight arrow—is discovered to have two families: one in San Francisco, one in L.A. He has seven children between two women.

CURIOUS FORENSICS This April the LAPD declares Andrew Rork Getty's gruesome demise a "natural-caused death," noting that he "had a whole plethora of medical issues."

30 UNDER 30 BY KATHRYN DILL; GETTY CURSE BY AGUSTINO FONTEVECCHIA
BLOOMBERG (TOP); ILLUSTRATIONS BY PATRICK WELCH; AS/ROPI/ZUMA PRESS/NEWSCOM

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LeaderBoard

EVAN WILLIAMS

+320 MILLION

NET WORTH: $2.8 BILLION

Speculation that Google might buy Twitter pushes up the bird's stock—and cofounder Williams' fortune, even though he has long since departed.

DEAL TOY

Cleared for Takeoff

AIRLINE STOCKS have capitalized on lower oil prices to extend their best rally in years, but the real seeds of their turnaround were planted in the wake of the 2008 financial crisis.

Continental and United first discussed joining forces in May of that year before the collapsing U.S. economy put those plans on hold. Talks revived in 2009 once the markets found their footing; the marriage was consummated in 2010.

The tie-up marked the midpoint of the consolidations that shrunk the number of old-line carriers by half, following the 2008 merger of Delta and Northwest and ahead of the 2013 hookup of American and US Airways.

SAFETY IN NUMBERS
Continental and United had both been through bankruptcy prior to their merger, but at the time of the transaction Continental was in danger of slipping into Chapter 11 anew, carrying $6.3 billion in debt against just $590 million in equity.

BUMPY RIDE
Executives were all smiles when the deal finally closed in October 2010, but the combined giant has encountered some rough weather since, regularly ranking near the bottom of annual measures of U.S. airlines' performance.

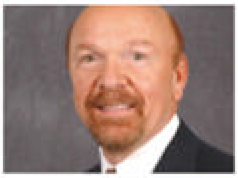
DEALMAKER IN CHIEF
The night before they announced the planned merger, the two parties called President Obama to discuss it. Considering the Justice Department would later mount a stiff challenge to the American/US Airways union, the courtesy call seems even smarter in retrospect.

BULLET THE BLUE SKY
Bankers advising the merger used musical code names for the $3 billion all-stock merger. Continental was "Coldplay," United "U2" and the deal itself "Joshua Tree," after Bono & Co.'s smash 1987 album.

BY STEVE SCHAEFER

PHOTOGRAPH: DAVID ARKY; TONY AVELAR/BLOOMBERG (TOP)

LeaderBoard



RICHARD SCHULZE

–$165 MILLION

NET WORTH: $1.7 BILLION

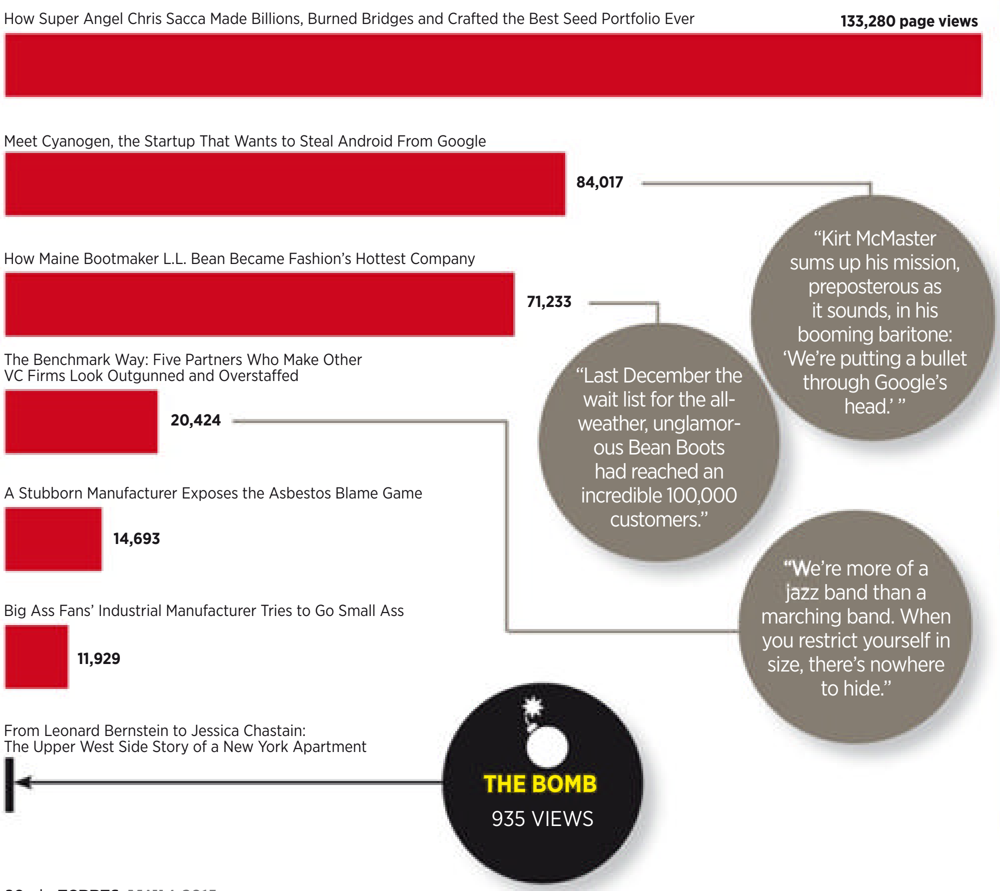
Schulze's Best Buy is restructuring its troubled Canadian operations, costing some 1,500 jobs.

CONVERSATION

FOR A GUY with a reputation in Silicon Valley as a contentious loudmouth, 39-year-old billionaire "venture cowboy" Chris Sacca, profiled by Alex Konrad in our Apr. 13 issue, drew mostly plaudits from readers for his sharp mind and bold bets. Page Six, the *New York Post*'s gossip sheet, noted that his early investors (Sacca was among the first into Twitter and Instagram) "are doing cartwheels." Bloomberg's Katie Benner, referring to both his VC acumen and his signature Western-style shirts, called him "a nice mix of honesty, oddity and embroidery." The last word, fittingly, went to the brash Sacca himself. "I always assumed I'd make the cover of @muscle_fitness or @CountryLiving first," he tweeted, "but @Forbes beat them to the punch." Happy to help, Chris.

THE INTEREST GRAPH

As in the Valley, so in FORBES: Chris Sacca blew away the competition for clicks and eyeballs in our Apr. 13 issue.



GENTLEMEN'S CLUB

Our annual Midas List ranking of tech's top 100 venture capitalists (produced in tandem with TrueBridge Capital Partners) was published just before Ellen Pao's gender-discrimination suit against Kleiner Perkins Caufield & Byers was decided in favor of the VC powerhouse. Many readers noted the paucity of women on our list and urged the industry to redress the balance. Yet kudos also went to those who cleared the bar, including GGV Capital's Jenny Lee—at No. 10 the highest-ranking woman on the Midas List since its inception in 2001.

@CHELSEACLINTON
Only 5 women made Forbes' Midas List of the top 100 tech investors. #NotThere

@RECODE
Guess how many women made Forbes' Midas List? (It's worse than you think.)

@VCREBECCA
It's an honor to be on the list, congrats to the other women who made it!

@WOMENCEOSROCK
Superwoman in #venture-capital Jenny Lee managing partner @GGVCapital is cracking the boys club.

@CINDYGALLOP
The @forbes @truebridge #midaslist of top tech investors: 95 men, 5 women. We need to #changetheratio big time. When the #midaslist is 50/50 female/male, we'll have 50% more disruptive tech ventures funded.

BY MEHRUNNISA WANI

HOW DO YOU KNOW WHAT YOUR CUSTOMERS WANT WHEN THEY DON'T EVEN WANT IT YET?
IT'S SIMPLE.
THE ANSWER IS SAP HANA.
What if you could predict the future by mastering the present? Major retailers use SAP HANA® to analyze hundreds of millions of transactions from tens of millions of customers to predict trends years in advance.
For more, go to **sap.com/simple**
SAP®
Run Simple

DAVID MALPASS // CURRENT EVENTS

MORE GOVERNMENT LESS REPRESENTATION

ESTABLISHMENT ECONOMICS should be having a complete nervous breakdown. It claimed that growth and fairness could be created through government spending, zero or negative interest rates and central bank bond-buying. Applied massively, those policies are working in reverse, causing repeated downward revisions to growth expectations and channeling gains to the wealthy but keeping average wages down.

The result in the U.S. since 2009 has been average real GDP growth of only 2.3% and average underemployment of 23 million. The establishment rationalized this as the "new normal" caused by the 2008 financial crisis, an untenable claim after six long years of slow growth.

Rather than undoing the policies, governments have doubled down. They like to expand and have low expectations for the private sector. Even though U.S. median income crashed during the big-government programs of 2009–10 and stayed at rock bottom from 2011 to 2014, the Obama Administration maintained spending at elevated levels, paid two years of unemployment benefits, advocated repeated tax hikes and allowed the zero-rate, low-growth Federal Reserve to launch Operation Twist, QE and then unlimited QE3.

The U.S. is still running blindly along this path. To finance its massive bond holdings, the Fed paid the banking system $6.9 billion in 2014. It plans to double and triple those unprecedented payments as soon as it raises interest rates, possibly later in 2015. This will add directly to the fiscal deficit and the national debt, with nary a nod to congressional oversight, checks and balances or actual economic growth.

Japan also went all-in on bad policies, coached heavily by the U.S. and the IMF. In 2014 Japan raised its value-added tax in order to keep spending and ran up its national debt to 250% of GDP. The Bank of Japan is buying an incredible 6 trillion yen ($50 billion) in bonds every month. GDP has plummeted from $5.8 trillion in 2012 to $4.5 trillion in 2014, with per capita income down by the same percentage.

ANTI-ESTABLISHMENT FEVER

Europe is trying similar policies, with similar results likely. Government spending remains astronomical, often 50% of GDP. Interest rates are negative, which channels most credit to governments and big companies, not to enabling growth. The central bank is now buying bonds from highly indebted governments and government agencies, such as the European Investment Bank, and is funding them through already weak banks.

Europe's core reform process is anti-growth. Government officials from the richer countries negotiate with those from the poorer countries to decide how private citizens should pay for big government. Over and over again, the decision by the government establishment has been to raise taxes into the stratosphere and cut back government services—but not the government itself.

No wonder anti-establishment parties are growing by leaps and bounds in Greece, Spain, France, the U.K., Sweden and Italy.

Greeks are supposed to pay a 23% consumption tax on every purchase they make, an absurd demand from any government, much less from the discredited ones that ran up Greece's debt and prioritized military spending over electricity and food for the poor.

The path to growth and higher median income goes in the opposite direction. Governments need to practice austerity rather than dispense it, but government negotiators won't move in that direction. Germany's powerful chancellor, Angela Merkel, could guide the issue; instead she's been agnostic regarding government size, letting government experts negotiate the reform programs, despite the bad political and economic results.

The force driving the establishment in developed countries since 2008 has been to use the post-Lehman Bros. financial crisis to make governments more powerful. Governments won't give up their own grandeur, decrease tax rates or sell their favorite assets. Instead, establishment economics wants to spend more, buy bonds and increase taxation and government control. This has caused a misallocation of capital and a decline in private sector investment and hiring. It's reversible, but for now the system is rigged to defend the status quo. F

THOMAS KUHLENBECK FOR FORBES

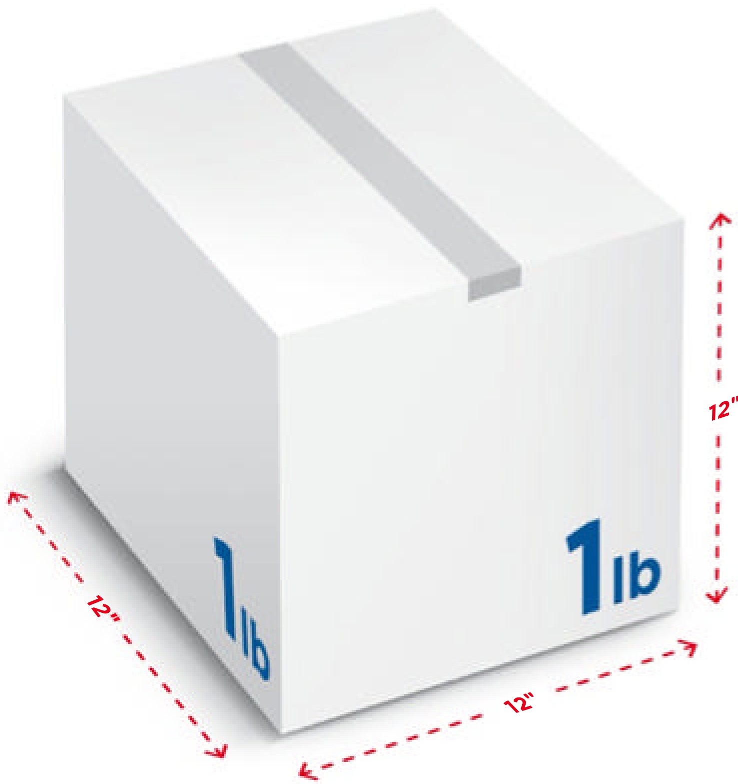
DAVID MALPASS, GLOBAL ECONOMIST, PRESIDENT OF ENCIMA GLOBAL LLC; PAUL JOHNSON, EMINENT BRITISH HISTORIAN AND AUTHOR; AND AMITY SHLAES, PRESIDENTIAL SCHOLAR AT THE KINGS COLLEGE AND CHAIR OF THE COOLIDGE FOUNDATION BOARD, ROTATE IN WRITING THIS COLUMN.
TO SEE PAST CURRENT EVENTS COLUMNS, VISIT OUR WEBSITE AT WWW.FORBES.COM/CURRENTEVENTS.

Q: HOW MUCH DOES THIS 1-POUND BOX WEIGH?

A: 11 POUNDS, IF YOU USE THE WRONG SHIPPING COMPANY.

Something is different this year: Some shipping companies are trying to box you in by expanding their use of **Dimensional (DIM) Weight Pricing**. That means you pay for your domestic package's actual weight or its dimensional weight — whichever is greater. For example, you could be billed the 11-pound rate for this 1-pound box because of its 12"x12"x12" size. That could get expensive. But you have a choice: The **USPS**® continues to offer a broad range of efficient and economical shipping options. Because we understand that one size does not fit all.

To weigh your shipping options go to **usps.com/yourchoice**



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DIVERSITY'S CENTRAL PARADOX

LET'S NOT MINCE WORDS about workplace diversity. It's tough to get it right. On the one hand, your greatest chance to create a successful, productive team today involves a diverse membership. On the other hand, the more diverse that membership becomes, the worse the odds are that the team will survive long enough to produce those results. That's diversity's paradox and challenge.

After exploring diversity for our forthcoming book, *Team Genius,* my coauthor, Mike Malone, researcher, Faaiza Rashid, and I believe that most companies are blind to the big picture and make a common mistake: They view ethnic and gender diversity as simple, legal boxes to check off. That's fine as far as it goes. But ethnicity and gender balance shouldn't be the end point of your diversity campaign. They should be the starting point. Most of your gains—and your chance to soar in the global economy—will come from taking a larger view of diversity.

Let's consider three more kinds of diversity.

• **Cognitive diversity.** People think differently from one another. We all know that. But few of us give it much consideration—sometimes to our regret—when we assemble teams. As a result, ethnic and gender diversity can look good on paper, especially when everyone gets along well. Yet in action, your team still doesn't work. Why not? Because it's not enough for talents and personalities to match. In fact, making sure they match may be the worst thing you can do. Given the choice between a team that's a rainbow of races and cultures but whose members all went to the same Ivy League university, and a team composed entirely of African-American women (or, say, Asian men) of different ages, classes, educations and personality types, you're more likely to have success with the latter. Cognitive diversity—how people think—is all.

Example: Is your goal to assemble a highly creative team to build a new product and pursue a new market? Then staff it with creative people and rebels, right? Not so fast. You'd do better with a mix of creative rebels, conformists and people who are focused on the details of operation. A mix of about 50%, 30% and 20% is good for a creative team. Conformists and detail-minded people shouldn't form the majority. But they are necessary ingredients for keeping the creative rebels honest and on time.

• **Age/experience diversity.** Experienced people are the backbone of successful companies—except when they fall into the habit of saying "been there, done that" to every new idea. Conversely, the young and inexperienced have no boundaries. Which balance is right for you? Highly regulated businesses will seek a greater mix of experienced people. Business-to-business companies will want a mix closer to a 50-50 balance. Consumer and fashion companies will lean toward youth. Every successful company has the right mix of age and experience. Loser companies are often lopsided with one or the other.

• **Proximity diversity.** In this age of global work teams and remote collaboration, proximity is no longer supposed to matter. Except that it stubbornly does. Physical proximity of teams, in fact, is an important predictor of success.

What does this mean in light of modern telecommunications, international teams and the global marketplace? A virtual work team of people living on four different continents and handing off their work across 24 time zones is almost the embodiment of the lack of proximity. So the challenge in such a case is to replace traditional physical proximity with something else: regular online meetings, enhanced communications tools (such as Cisco's TelePresence and Skype-like technology), team rituals, nonwork activities and, whenever possible, actually getting the team physically together in a single place.

Then there's the opposite challenge—that of corporate headquarters' immune systems killing good ideas from remote offices. To build its first fighter jet during WWII and catch up with Nazi Germany's Messerschmitt ME 262, Lockheed's Kelly Johnson installed a rebel team in a tent next to a smelly plastics factory. They delivered the P-80 Shooting Star in six months. When IBM was developing the personal computer, it put the team 1,100 miles away, in Florida. That way, the corporate headquarters in Armonk, N.Y. couldn't kill the idea. Apple did the same thing with the Macintosh and later with the Apple Store. It put those development projects off-site.

True diversity is hard work. The best managers will use ethnic and gender diversity as a starting point to get to a larger—and more effective—way of running a business.

THOMAS KUHLENBECK FOR FORBES

RICH KARLGAARD IS THE PUBLISHER AT FORBES. HIS NEW BOOK, *TEAM GENIUS: THE NEW SCIENCE OF HIGH-PERFORMING ORGANIZATIONS,* COMES OUT IN JULY. FOR HIS PAST COLUMNS AND BLOGS VISIT OUR WEBSITE AT WWW.FORBES.COM/KARLGAARD.


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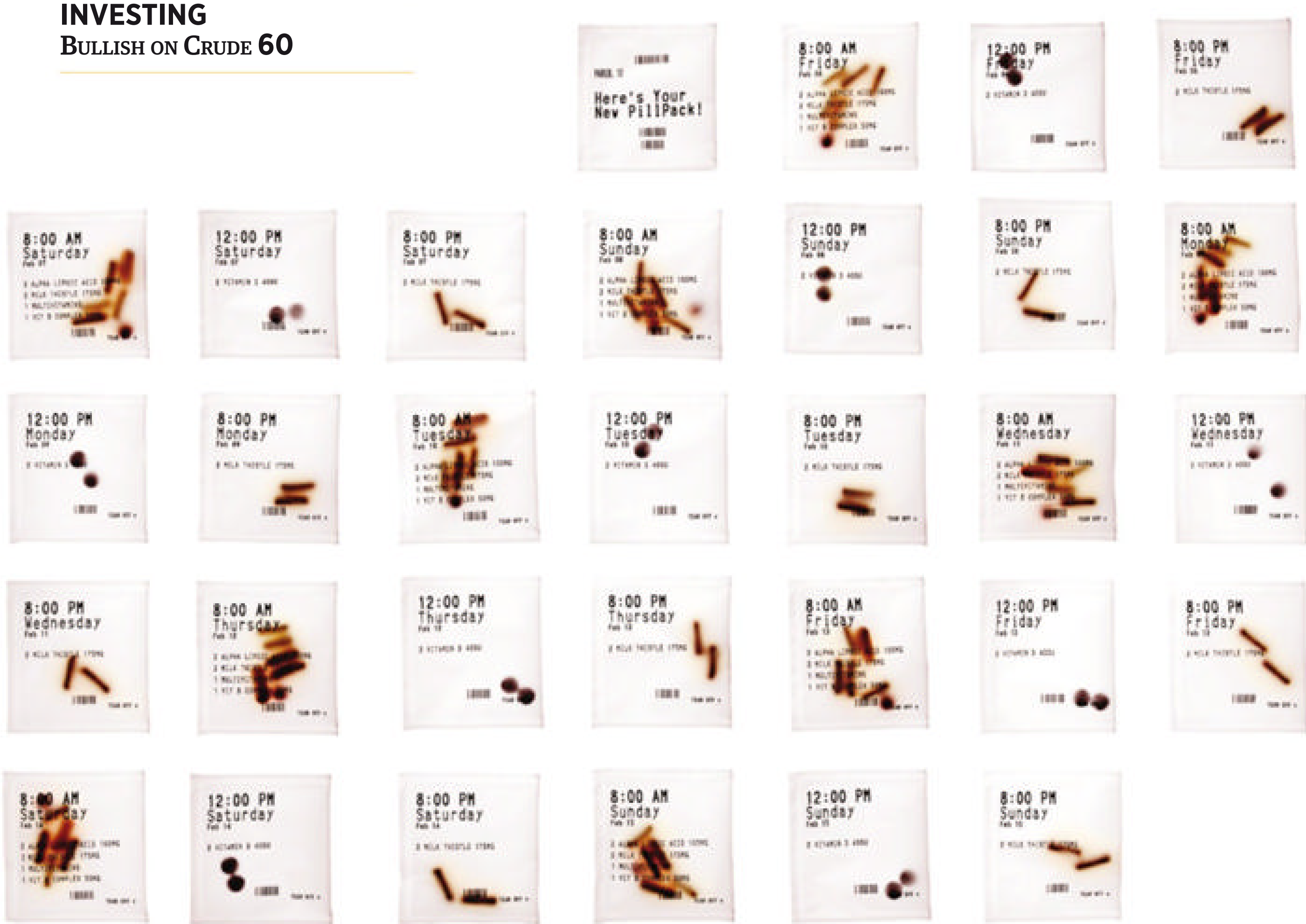


T.J. Parker landed on the FORBES 30 Under 30 list after starting PillPack, a mail-order pharmacy that sorts and plastic-wraps meds precisely by dosage and time: no more missed days or accidental double-dips. "We wanted to take all the things pharmacies had to do—and throw them out the window."

PAGE 40

DAVID ARKY FOR FORBES


BREITLING
1884
MPH
SWISS
MADE

Pill Pusher

A tiny New Hampshire startup is revolutionizing the way millions of patients take their daily medicines—and threatening the business model of titans like CVS and Walgreens in the process.

BY SARAH HEDGECOCK

Allen Pittinger-Dunham, 51, has been taking HIV medicines since 2003. A few years in, his viral counts started to creep up, and his doctor put him on a much more complicated regimen that required him to take ten pills a day. Cathy Benedetti, a 38-year-old nurse, faces a similar problem with her elderly parents, who live 1,000 miles away from her. Each of them takes at least 16 prescription drugs every day. "They were so overwhelmed," says Benedetti. "They had literally a box of bottles, and they said every night, 'I don't want to deal with pillboxes.'"

The problem of medication overload is a big one. Some 32 million Americans—10% of the population—are on at least five different prescription drugs. A 2005 study found that half of all Americans on medications don't take them properly, adding $100 billion a year to U.S. health care costs.

Pittinger-Dunham and Benedetti have settled on the same solution to the problem: a small startup pharmacy based in Manchester, N.H. called PillPack. The company sends them their prescription drugs by mail order (nothing new there), but instead of sending all the Lipitor in one bottle and the Viread in another, pills are sorted together into clear plastic wrappers printed with the date and time at which they should be taken. No more wondering if you remembered to take your Diovan or counting how many Lasixes are left in the bottle. The service—including shipping—costs customers about the same as picking up the prescription at the local pharmacy.

"It takes all the worries that I may have away," says Pittinger-Dunham. Benedetti says: "It's peace of mind for everyone involved."

Drug lord: 29-year-old T.J. Parker wants to change the way you take your medicine.

DAVID YELLEN FOR FORBES

The idea of prepackaging pills by dosage—organizing them before they even reach the patient—isn't new. In 2006 researchers at the Walter Reed Army Medical Center in Washington, D.C. found that by putting pills in blister

PillPack's dispensers keep dosing simple for patients.

packs, they upped the proportion of people who took their medicine from 61% to 97%. What is new is turning that idea into a business with the potential to rival CVS or Walgreens.

PillPack cofounder and Chief Executive T.J. Parker, 29, is the son of a pharmacist and grew up working at his dad's drugstore, making deliveries as a teenager to people who could not leave their houses. He went to school at the Massachusetts College of Pharmacy but found that he didn't like what the business was becoming.

"It's not that the pharmacists at CVS and Duane Reade aren't trying to help, but they don't have the infrastructure or tools to do anything about it," says Parker, who was featured earlier this year in the FORBES 30 Under 30 list of young innovators. "I didn't want to work at a traditional retail pharmacy. I wasn't interested."

At first Parker went to work for his dad, who had a proto-PillPack business that packaged drugs and delivered them to patients in nursing homes. But Parker saw more potential in using the Internet to take the same packaging ideas to the masses. Working on MIT's Hacking Medicine, a hackathon for health care startups, he met Elliot Cohen, a Sloan M.B.A. In 2012 he and Cohen pitched PillPack and won the contest. Soon after, they started the company, with Cohen signing on as CTO and cofounder. Cohen had a line into the venture capital community and nabbed Founder Collective as the company's first investor, in a $550,000 seed round.

PillPack has gone on to raise $12.8 million. The company won't disclose numbers, but FORBES estimates the startup could hit some $15 million in revenue this year, with 15% to 20% margins. "The day we agreed on the investment, I was cooking omelets for T.J. and his wife," says Atlas Venture's Fred Destin. "I still have a scar because I burned myself on the pan."

At their 5,000-square-foot mill, built in the early 1900s and still with its original 6-inch-thick wood floors, patient prescriptions are fed into a robot the size of a large filing cabinet (the system is used in hospitals but hasn't been used for consumers in the U.S. until now). The machine contains canisters of the 400 highest-volume pills used by PillPack; a pharmacist loads more unusual prescriptions by hand. Each drug is labeled by bar code and checked by both the machine and a pharmacist.

The company now employs 66 people; 15 have the sole job of helping patients transfer their prescriptions from brick-and-mortar pharmacies over to PillPack. The company is licensed in 47 states. Oklahoma, Louisiana and Oregon are the holdouts.

By focusing on only large-volume repeat customers, Parker says he's able to stock far fewer medications than most neighborhood pharmacies, keeping costs—and prices—low. The design of the product itself is also a cost-saver, allowing the company to ship multiple prescriptions at once to a single patient.

The company is creating a smartphone app that will remind patients to take their pills. PillPack has discovered that tech-savvy customers like to renew prescriptions by e-mailing instead of picking up the phone as with a traditional pharmacy.

Still, if the model takes off, won't one of pharmacy's big players imitate his idea? Parker shrugs off the thought. Drugstores are rated low when it comes to customer service. He doesn't think that's going to change anytime soon.

Besides, "people are so used to having to deal with this—the trips to the pharmacy, sorting the pillboxes, nagging the pharmacy for refills," he says. "People who have been doing this for any amount of time are thankful that we exist." *

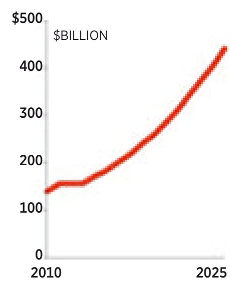
FINAL THOUGHT

"Truth is ever to be found in the simplicity, and not the multiplicity and confusion of things." —ISAAC NEWTON

TRENDLINE

WATER, WATER EVERYWHERE?

History is prologue: As ever, the next big commodity play is good old H_2O. New drought-generated restrictions in California highlight one of the biggest global infrastructure challenges of the early 21st century: getting water to booming populations. By 2025 annual worldwide spending on supply and filtration systems *(see chart below)* will more than double to over $400 billion—a huge opportunity for companies like Siemens and GE, along with a host of smaller startups.



SOURCE: OXFORD ECONOMICS PWC CAPITAL PROJECT AND INFRASTRUCTURE SPENDING OUTLOOK TO 2025.

DAVID ARKY FOR FORBES (LEFT); PETER BENNETT/NEWSCOM

Tesla Meets Vespa

A startup is selling Asia's urban millions on a smartphone-sleek electric scooter to replace an ocean of dirty motorbikes.

BY AARON TILLEY

Horace Luke wanted to be the first person in Taiwan with a Tesla Model S when the gorgeous electric sedan debuted in 2012. Luke, the former chief innovation officer at smartphone maker HTC, is obsessed with beauty and function in all things. But his beloved Teslas were not sold in Taiwan (and still aren't). He thought about importing one, but his girlfriend finally talked him out of it. With no home garage to charge it in, he'd have to juice it at the office and thus wouldn't have use of it on the weekends.

Teslas and other electric sedans may be gaining ground in the U.S., where roomy ga-

Horace Luke, flanked by his Gogoro Smartscooters, fronting a legion of Taipei "scooter assassins."

CHRIS STOWERS FOR FORBES

rages are the norm, but Asia's booming urban centers present a hostile environment for the clean car revolution. The cost of a Tesla is way out of the reach of the masses, and for the rising middle class in cramped apartment towers there are few good places to charge the cars, let alone park them.

"How do you create a product for the 99%?" says the 44-year-old Luke, a short man with thick, black-framed glasses, a head shaved clean and a giddy laugh he employs often. "We need to create a product for them."

Four years ago Luke and his former HTC colleague Matt Taylor set out to do just that. They left the corporate world and launched a startup called Gogoro that brings to bear design, technology and marketing experience also honed at Nike and Microsoft to create an electric motorbike called the Smartscooter. Debuting this summer in Taiwan, Gogoro's bike is what you'd get if you mated a Vespa and an iPhone. With an electric motor equivalent to a 125cc engine, it accelerates to 30mph in 4.2 seconds and maxes out at 60mph, producing a futuristic whirring sound as air moves through the frame. You can open the trunk, start the motor and pick from 129,600 headlamp lighting combinations as well as custom horn sounds via Bluetooth from a smartphone app. Gogoro hasn't decided on a price, but Luke says it would be in the $2,000 to $3,000 range of Honda and Yamaha bikes ubiquitous in Asia.

The Gogoro scooter would cost quite a bit more than a normal bike, given all its bells and whistles, but Luke has made it affordable through a clever business-model twist. Riders won't own the batteries. Instead, they'll pay a low monthly fee to swap portable batteries as needed from a network of charging stations. Batteries eat up a huge chunk of an electric vehicle's cost. Luke plans to make the bike even cheaper, possibly with an eco-subsidy from the Taiwanese government.

Gogoro itself has plenty of financing, having early on raised $40 million from Samuel Yin (estimated net worth: $4.2 billion), CEO of Ruentex Group, which holds interests in retail, financial services and real estate, and $10 million from HTC cofounder Cher Wang. Luke is still closing on another $100 million round that will likely value the company at more than $400 million.

The battery-swap vehicle business model has been tried before—and failed spectacularly. Better Place, the Israeli electric vehicle startup backed by billionaire Idan Ofer, burned through almost $1 billion trying to build a network of hulking robotic battery vending machines that were supposed to cost $500,000 each but ended up costing closer to $2 million. Better Place went bankrupt in 2013, but its charismatic founder, Shai Agassi, still remains convinced he was in the right. "The concept and the technology worked extremely well. In the long term switching is actually cheaper than setting up charging stations." Better Place's bigger problem, besides the fact that the cars were ugly, was that it tried to expand to multiple countries before nailing one market. Luke studied Better Place closely to avoid its mistakes. His battery-charging GoStations, roughly the size of a snack vending machine, can be screwed into place anywhere there's an AC outlet, and cost less than $10,000 apiece. In less than a minute riders can pull up, yank out the 20-pound battery from a compartment under the scooter's seat and be on their way. The batteries won't work unless they've been authenticated to the rider via their smartphone app.

Luke is focusing on getting the Taipei launch right this summer before expanding to other megacities. Gogoro is targeting about 1.6 stations per square mile to make its battery-sharing scheme work and is getting prime real estate for its GoStations in a deal with the Taiwanese government, which owns about 75% of the country's gas stations. Taiwan makes for an ideal proving ground, with 15 million scooters in a country of 23 million, one of the highest scooter-to-human ratios in the world. Around Taipei you'll see entire families packed atop a Honda or loads of propane tanks strapped to the back seat of a Yamaha, all of them spewing lung-choking fumes.

"This product could be very promising in the future," says Taiwan's premier, Mao Chi-kuo. "Not only could it be a good solution to solve our domestic transportation problems—I think they could be adopted in other markets."

Born in Hong Kong to two accountants, Luke moved with his family to Seattle when

GADGETS WE LOVE

A DRONE OF ONE'S OWN

Interested in some NSA-style surveillance of that weirdo down the block? Pick up 3D Robotics' new Solo ($999; 3drobotics.com), the latest aircraft on the increasingly crowded consumer-drone tarmac. 3D has paired with GoPro on an extremely stable three-axis gimbal (a gyroscope, essentially) that ensures smooth shooting even during erratic flights. With precise avionics (Linux computers onboard and in your controller) and a 20-minute flight time, Solo will wirelessly send HD footage to your phone or tablet from up to half a mile away. And as the tech improves, Solo will remotely update as easily as your Twitter app. It even has an emergency air brake—undeniably useful given how packed civilian skies are getting.

he was 13. He went to the University of Washington in Seattle, where he studied industrial design with a focus on furniture. He made conceptual jewelry pieces and sold them to art collectors to pay for college. After graduation he worked in marketing at Nike but soon left for the tech world at Microsoft. Luke started a project inside Microsoft called GoPC with the idea of shrinking down the PC to fit in your pocket. But the technology wasn't there to make it small enough. "I learned that timing is everything. You might have the brightest idea or be the most ambitious person and have all the funding you want, but the world may not be ready for it." He later joined the team that began working on the Xbox.

In 2006 he moved back to Asia to be chief innovation officer at HTC, where he could continue his dream of trying to fit the Internet in a pocket. The iPhone, introduced a year later, would change everything, and pretty soon he found himself collaborating closely with Andy Rubin, the creator of the Android operating system, after he joined Google's mobile team.

Luke lived for phones while at HTC. He carried around six at a time. But by 2011 he was burned out by the smartphone race. "Every industry at a different time requires a certain type of talent," he says. "It has entered into its evolutionary stage instead of revolutionary." Since Luke left HTC, the company went into a steep financial decline from which it is only now recovering.

The need for the new is palpable with Luke. Over dinner at a soup dumpling restaurant in downtown Taipei, he gets up from his seat and goes over to a window where customers can observe workers carefully constructing each dumpling to have exactly 18 intricate folds. "I couldn't do that. It's too repetitive," Luke laughs. "I'd try to innovate, but they'd kick me out. If I wanted 19 folds, fired!"

Throughout the late 2000s Luke and Taylor, HTC's chief technology officer, had started talking about putting a company together. "Horace had been talking about the idea of superefficient transportation," said Taylor. "And he's always been a car nut." Everywhere they went in Asia they saw cities choking on clouds of scooter exhaust. The two Gogoro cofounders looked at what Tesla had borrowed from the Department of Energy to get the Model S onto the market—$465 million—and thought they could build a scooter for a tenth of that.

After raising $50 million from Wang and Yin, the two thought they'd be able to fast-track a new bike using off-the-shelf components from Taiwan's massive manufacturing base. But Luke soon realized that few suppliers would be able to meet their performance demands. The biggest supplier of electric motors, for example, was more attuned to building motors for washing machines and blenders. So Gogoro had to set about building almost everything itself. Crucially, it scored a partnership for its batteries with Panasonic, Tesla's choice of battery supplier as well. All the design and prototyping work has been carried out in secret in a 266,800-square-foot space in a dusty industrial suburb 20 miles south of Taipei. Luke had the windows covered in white paper to block out curious onlookers. Inside, the floors, walls and ceilings have been stripped to bare cement, and its 364 employees all work in the open. Sprinkled around the office are expensive Robocop and Iron Man toys Luke has collected that cost a couple of hundred dollars apiece. Plans call for another 400 hires this year, many of whom will take up space in a building across the street with another five stories and 89,000 square feet of space.

The Gogoro Smartscooter's sleek, simple design has won plenty of favorable comparisons to Apple products since its unveiling in early 2015. The industrial designer in Luke sees parallels. "Electronics before needed a lot of specialized buttons because the software wasn't there yet. Now the world of design relies on software," he responds. "The world has become more software-oriented, making things simpler." Clean transportation might as well be push-button, too. *

TRENDING

What the 70 million Forbes.com users are talking about. For a deeper dive go to FORBES.COM/TECH

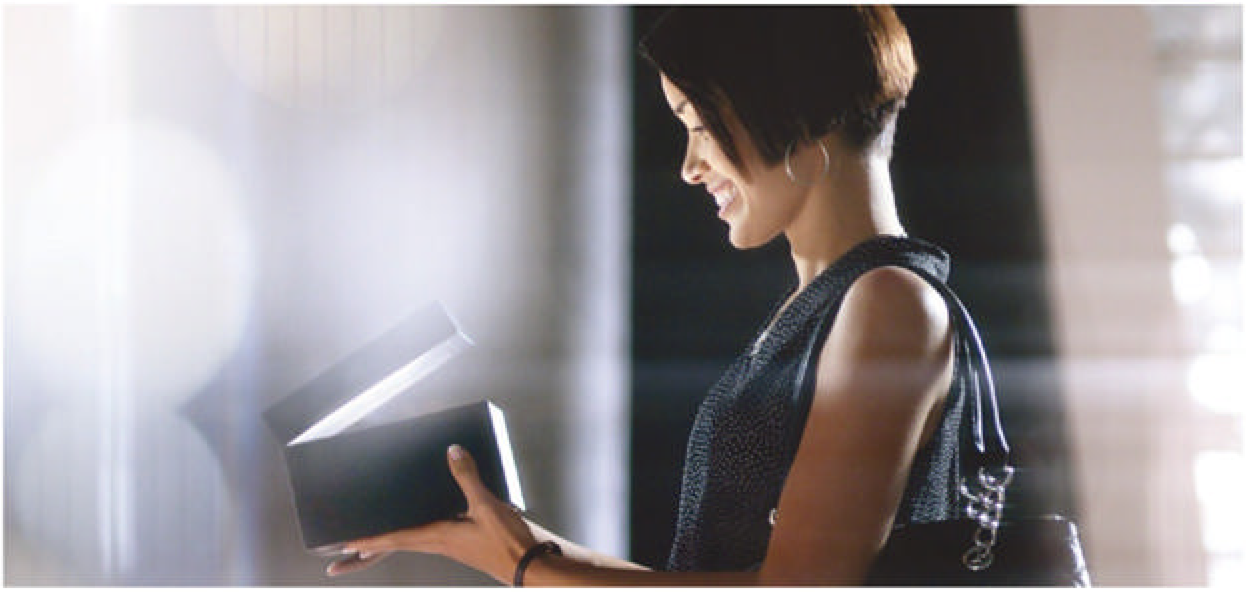
COMPANY
XIAOMI
Chinese smartphone maker sells more than 2 million units (generating $335 million) in a recent 12-hour flash sale. How do you say "long line of hipsters" in Mandarin?

PERSON
MARK PINCUS
He's back as CEO of Zynga, whose stock promptly drops 18% at the news. Just think of him as the A-Rod of mobile gaming.

IDEA
YOU, ACTION FIGURE
A new 3-D printing service called DOOB creates a highly accurate mini-you via a 360-degree photo booth. Another big stride forward for the selfie economy.

FINAL THOUGHT

* *"The reality about transportation is that it's future-oriented. If we're planning for what we have, we're behind the curve."* —**ANTHONY FOXX**



INNOVATION IN THE AGE OF EXPERIENCE

We live in an age where businesses need to look beyond the aesthetics of a product or the practicalities of a service...where consumer engagement and loyalty count far more than features and benefits alone...where consumers expect to interact with or even influence suppliers – not just be sold to.

Products are no longer enough for today's consumers who value experience over all else.

THE AGE OF EXPERIENCE HAS ARRIVED

Executives and academics everywhere accept that in the modern economy, the key to success is delivering consumer experiences that demonstrate true differentiation.

And yet, the task is a daunting one at best. What exactly is meant by experience? And, more importantly, how can a business influence it, given the complex array of emotional, rational and physical responses that inevitably drive consumer connection?

IF WE CHANGE THE WAY WE INNOVATE, CAN WE DEVELOP EXPERIENCES THAT CONSUMERS DEMAND?

The key to making consumer experience the true focus of innovation is to capture insights and expertise from across a business's entire ecosystem.

Shaping the right consumer experience requires not only the involvement of but also the collaboration between all roles within a company – from marketing and management to sales and engineering.

Only by connecting all the dots between people, ideas and data can a business drive consumer loyalty, engagement and value.

IF WE WANT TO THRIVE IN THE AGE OF EXPERIENCE, WHERE CAN WE TURN?

The **3D**EXPERIENCE® platform from Dassault Systèmes is a business experience platform: a new class of collaborative environment specifically designed to help companies create differentiating consumer experiences.

It enables everyone within a company to play an active role in experience development.

With a single, easy-to-use, compass-like interface, the **3D**EXPERIENCE platform powers INDUSTRY SOLUTION EXPERIENCES – based on 3D design, analysis, simulation and intelligence software in a collaborative, interactive environment.

The Age of Experience represents a significant opportunity for businesses prepared to place a new focus on creating unique and truly rewarding consumer experiences.

It's time to ask the right questions, understand the present and navigate the future – now made possible with the **3D**EXPERIENCE platform.

Discover the **3D**EXPERIENCE platform and our INDUSTRY SOLUTION EXPERIENCES at **3DS.COM**.

The 3DEXPERIENCE Platform Explained

The **3D**EXPERIENCE platform is a business experience platform. It provides software solutions for every organization in your company – from engineering to marketing to sales – that help you, in your value creation process, to create differentiating consumer experiences.

With a single, easy-to-use interface, it powers INDUSTRY SOLUTION EXPERIENCES, based on 3D design, analysis, simulation and intelligence software in a collaborative interactive environment. It is available on premise and in public or private cloud.

It takes a special kind of compass to understand the present and navigate the future.

About Dassault Systèmes Dassault Systèmes, the **3D**EXPERIENCE Company, provides business and people with virtual universes to imagine sustainable innovations. Its world-leading solutions transform the way products are designed, produced and supported. Dassault Systèmes' collaborative solutions foster social innovation, expanding possibilities for the virtual world to improve the real world. The group brings value to over 190,000 customers of all sizes, in all industries, in more than 140 countries.

JAMEL TOPPIN FOR FORBES

Going Nuts

For Jeff Braverman, doubling the sales of his family's nut business isn't enough. Can he turn Nuts.com into a household name?

BY IAN MOUNT

Last fall Josh Cohen passed a UPS pushcart in midtown Manhattan piled with boxes from snack company Nuts.com, which happened to be owned by a friend of his. Cohen stopped and stared, impressed by the brand's eye-catching packaging and his friend's evident sales success. But then Cohen, being a marketing guy, decided to do an experiment. Over the next week he asked a dozen people if they had heard of Nuts.com. Not one had.

In October Cohen ran into the friend, Jeff Braverman, at a fundraiser. When Braverman mentioned that he was talking to investors about expanding Nuts.com, Cohen sternly advised him to get the word out first. "You have a great thing there," he said. "The name alone is phenomenal. But the only way people are finding you is by

Nuts to you: Jeff Braverman took his family business from a dying shop to a thriving Web retailer.

Small packages: Nuts.com buys its goods at commodity prices, then repackages them in playful packets created by well-known design house Pentagram.

PENTAGRAM (LEFT)

stumbling upon you online. You can create a national brand. You need to do some marketing."

For Braverman, the conversation underscored one of the great hurdles of building a business: How do you turn a reasonably successful midmarket company into a household name?

Braverman's nut business has already come a long way. It was founded in New Jersey in 1929 as the Newark Nut Co. by Braverman's grandfather and had many years of success. But in the 1960s Newark fell into decline, and by 2002 the business, then being run by Braverman's father and uncle, was down to the two brothers plus two employees and $1.25 million in revenue, split between wholesale and retail sales.

After Jeff graduated from the University of Pennsylvania, he found a Wall Street finance job at the Blackstone Group. But he hated it, and less than a year later he decided he wanted to build something. So in 2003 he quit and, over his father's objections, returned to the family business.

Working at first on a commission basis, he focused on expanding the Nutsonline.com website. He dramatically increased spending on online ads and improved customer service, and the nature of the business began to shift. In 2005 the retail store was bulldozed to make way for a hockey arena, and the company moved. In 2006 the Newark Nut Co. topped $5 million in revenue, most of it online.

Sales continued to rise, helped in part by a public relations ploy. When Braverman noticed that fans of soon-to-be-canceled TV show *Jericho* were protesting the cancelation by playing off a plot turn in the show and purchasing bags of nuts on his site to be delivered to CBS, he fanned the p.r. flames and wound up shipping 40,000 pounds of nuts—enough to fill a 48-foot tractor-trailer—to the network, generating lots of publicity and more than a million visits to Nutsonline.com. Ultimately the show was canceled anyway, but the nut company—since relocated to a warehouse in nearby Cranford—was on its way to topping $20 million in revenue in 2011.

Even so, Braverman knew people were struggling to remember the Nutsonline.com domain name. This had become painfully obvious after an appearance on a nationally broadcast cooking show, when the host thanked "Nuts.com" for supplying the snacks. That compelled Braverman to try to buy the Nuts.com domain name, but it took him years to find the squatter who owned it and to work up the nerve to meet his price. Eventually he paid $700,000 for the URL.

At first the decision seemed to be a disaster. When he switched domains, the redirected links did not function as planned, and the company's nonpaid Web traffic plunged 70%, costing him 100 to 150 orders a day. But over time traffic recovered and orders boomed. "It probably paid for itself in six months," he says, "though I would have been happy with ten years."

Last year revenue broke $35 million, the workforce rose to 130 employees, and today Nuts.com—now the official corporate name—sells about 2,700 different snack products. While it roasts some of its own nuts, the company mostly repackages wholesale commodity products. It rises above its commodity roots, Braverman says, by emphasizing quick order fulfillment and upscale sourcing, and by shipping its products under its own name in playful packaging with a stylized childlike font.

Still, with huge national retailers like Amazon and Wal-Mart fighting for the same sales, Braverman began to sense there was a limit to how much Nuts.com could grow on the back of Google ads and search engine optimization.

GO
CONSIDER
STOP

PEDAL TO THE FLOOR

Looking to get your nascent company off the ground? Some lessons from the 2015 Seed Accelerator Rankings Project, an annual list of top startup factories.

ANGELPAD
The top spot went to this San Francisco-based accelerator, founded by former Google international product manager Thomas Korte.

Y COMBINATOR
Reputation matters: Despite not adhering to the list's strict criteria and thus not ranked, Y Combinator—whose grads include Dropbox, Airbnb and Reddit—remains a golden chalice for entrepreneurs.

GET-RICH-QUICK AMBITIONS
Only 2% of companies from the top 20 accelerators have had a successful exit thus far. Even the most promising can take a decade to mature.


MAKE AN AMAZING EXPERIENCE
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Right-Sizing Van Fleets for Greater Efficiency

BY MICHAEL RONEY

Operators of van fleets face many challenges these days, including volatile fuel prices, evolving regulations, driver safety and productivity, vehicle transaction expenses and maintenance. In this environment, they must embrace innovation in order to stay competitive. "They're not making those same 'do what I've always done' decisions," confirms Dave Sowers, Head of Ram Commercial Vehicle Marketing at Ram Brand, FCA – North America. "Now they're right-sizing their vehicles to the task at hand, rather than hauling half-empty space."

The Unibody Advantage

For the past 20 or 30 years, vans sold by major auto manufacturers have tended to be body-on-truck-frame affairs, with little variation in size. Enter the Ram ProMaster, the North American version of the Fiat Ducato, currently in its third generation with over 4.5 million vehicles produced in Europe. "This front-wheel-drive unibody is designed more from a clean-sheet perspective, with an integrated body and chassis," Sowers explains. This allows for the best efficiency—great capability but at a lesser weight, creating numerous advantages:

- **Capability:** Best-in-class payload weight, cargo height and cargo width from floor to ceiling and between the wheels, all enhanced by an exclusive front-wheel-drive configuration and cargo doors engineered to a standard pallet.
- **Efficiency:** Best-in-class fuel economy, thanks to the weight of the vehicle, the front wheel drive and right-sizing of the powertrains. A 3.6-liter Pentastar V6 gas engine or a 3.0-liter 14 diesel offer oil-change intervals of 10,000 miles and 18,000 miles, respectively.
- **Durability:** A multiyear record of success in Europe, plus best-in-class Brembo brakes that stand up to the frequent stops required of city driving and delivery services.
- **Functionality:** A low-load floor with best-in-class step-in height, plus 60/40-split rear doors designed for deliveries and superior visibility from the cab. Fourteen different configurations in terms of body, wheel bases, total vehicle length and roof height, along with two powertrain choices, take functionality even further.

Sowers calls the Ram ProMaster an ideal mobile worksite for such uses as HVAC, plumbing or electrical services, along with nearly any type of delivery. Ram also offers the smaller ProMaster City, a smaller Class 1 van, which can be used for both people and cargo. "At 29 mpg on the highway, the City offers a significant fuel economy improvement over full-size vans of today, and a huge improvement over those of yesterday," he notes.

Embracing the New Paradigm

Sowers believes that the fleet industry will see ever-greater acceptance of the new van paradigm embodied in both the ProMaster and ProMaster City. ghjgjhg

"Step outside of convention from what you've done previously and pick the best vehicle based on what's available today, not on what was the best-selling 30 years ago," he advises, "and maximize your relationship with the manufacturer, dealer or service network.

"For example, ProMaster and ProMaster City are just part of Ram's complete commercial portfolio, so whether for the fleet buyer or the small commercial buyer and user, we're able to provide for all of those needs in one place. That access to diversity will allow you to right-size and succeed." ■

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THE FUTURE ISN'T BUILT IN 8-HOUR STRETCHES.
RAM COMMERCIAL
RAMTRUCKS.COM/PROMASTERCITY
CONTRACTOR
THE ALL-NEW RAM PROMASTER® CITY
BUILT FOR ALL HOURS
BEST-IN-CLASS PAYLOAD 1,883 LB
5-YEAR 100,000 MI. LIMITED POWERTRAIN WARRANTY
BEST-IN-CLASS CARGO ROOM 131.7 CU-FT

When revenue growth began to slow, from 50% to half that, he concluded that to become a real player in the $35-billion-a-year snack sector he would have to reinvent the company with a big-business mentality. "Can I double this business based on the strategies we've been using?" he asks. "Yes. But now it's thinking bigger: How can we become a $500 million business?"

Braverman is reaching for uncharted territory. According to a recent paper from the Ewing Marion Kauffman Foundation, which supports entrepreneurship, only about 0.03% of new companies make it to even $100 million in annual revenue. Leaping from a solid midsize company to a truly huge enterprise is inherently difficult and risky. "The founder or owner needs to decide if this is really something he wants to do," says Phillip Kim, associate professor of entrepreneurship at Babson College. "There are a lot of costs and headaches."

It's not only about the money, says Braverman, noting that he could sell the company today and retire quite comfortably in his mid-30s. Instead, the reasons he gives have more to do with helping people eat better and making sure everyone knows the name of his business. "Maybe that's ego or pride," he says, "but that would be phenomenal."

Once he decided to go for it, Braverman identified three roadblocks: branding, talent and his own attitude toward investment. Solving each would require taking big steps.

In the past the company's marketing efforts had focused on search engines. To build a national consumer brand, Braverman concluded he would have to get products into chains like Costco, and he's been speaking with media agencies and considering moves like placing branded carts in transportation hubs—he's already in one train station and several airports. That kind of expansion, however, requires a big marketing push. "We're getting proposals in a few weeks, and it's hundreds of thousands of dollars, if not millions," he says. "If the media stuff gets going, that's millions and millions of dollars a year."

In terms of talent, Braverman knows what he wants: more. "Instead of having everyone wearing a lot of hats," he says, "you can hire great people who specialize in one thing."

That means hiring salespeople to sell into the office snacks sector, building the marketing department and bringing in managers. He has already posted job descriptions for six high-level positions, he says, and has started hiring. As Babson's Kim notes, the move is fraught with risk: "That takes it from a family business culture to one that's more professionalized, with different layers of management and oversight."

Some owners of growing family businesses decide against making big, expensive hires. In Pottsville, Pa., Richard Yuengling Jr. has built his tiny craft brewery into a company estimated to have more than $500 million in revenue today. But after buying a brewery in Tampa, he ran into trouble selling to the major grocery chains that control beer sales in the South, and so instead of hiring specialists, he retrained current employees.

Braverman says the toughest issue is adjusting his thinking about spending money. For now the company will finance its expansion with profits. He says he's already set aside $1 million for an upgrade of his picking and packing system. And he's decided to expand his company's 55,000-square-foot space to 100,000 square feet: "I had a choice to take 30,000 square feet, but I said, 'Let's do it right; let's go big.'"

That change of mind-set has led Braverman, the company's majority owner (other family members and a few employees have stakes), to consider selling a chunk of the business to outside investors. He says he would prefer a minority investor—leaving him in control. Still, he says, it's hard to ignore the piles of cheap money out there right now looking for placement. Taking the money, he adds, would allow him to take more risk: "If you want to do a $2 million capital expenditure, you just do it."

Investors are currently willing to pay ten times Ebitda (or operating performance) or more for a branded specialty retailer with fast growth, says Lorin DeMordaunt, a member of Deloitte's corporate finance group in Charlotte, N.C., who is advising Braverman.

Attempting to tap that value would set in motion a process that is likely to leave Braverman with more money but less control of what will no longer be a family business. For now, he says, he believes he can still add value running the business: "When I can't, I'll be replaced. And I'm okay with that." *

FINAL THOUGHT

"A good salesman is like a good cook: He can create an appetite when the buyer isn't hungry." —**GEORGE LORIMER**

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PERSON
ADEO RESSI
The founder of Founder Institute is trying to create mini-Silicon Valleys in 100-plus cities worldwide. His incubator claims to have launched 1,500 companies, with 87% still in business.

IDEA
ADA COMPLIANCE—ONLINE
The Department of Justice is increasingly eyeing companies that offer products and services online for violations of the Americans With Disabilities Act. Applicability is murky, but stay vigilant.

COMPANY
STARR RESTAURANT ORGANIZATION
Relentless focus on customer service has enabled owner Stephen Starr to expand all along the East Coast since founding his restaurant group in Philly 20 years ago.

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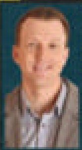
FORECASTS & STRATEGIES

For the New Year & Beyond.

We Asked The World's Leading Professionals For Their Top Tips On

HEALTH, WEALTH & SUCCESS

To Help You Thrive in the **New Year & Beyond** and Here's What They Had to Say...



Ryan Paul Adams | CEO, PME 360 and Marketing Consultant to the Remodeling Industry

"A huge key to success in 2015 and beyond is to master one thing. Every marketplace is loaded with competitors and people don't want average products and services from the generalist. FOCUS on being the best at one thing until you have mastered it at least 80%. Only then should you consider adding on other services, if at all. Doing this will make your business and life 10x's better.

WWW.PME360.COM

Nick Nanton, Esq | CEO, Dicks + Nanton Celebrity Branding® Agency

"It's no surprise that it's getting harder and harder to keep the attention of your target market. Create immersive media through storytelling to get clients and prospects to welcome you into their lives as a part of the conversation. The days of yelling like a $3 salesman are gone, make sure your business isn't gone too!

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"Trust is priceless. When it comes to surgical care "it should never be about the best deal, but about experience and excellence of care". At the Surgery Center at Doral our reputation is built on your future and our past results. We value the trust patients place in us. Safety, quality of care, and patient needs are ahead of everything else.

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Greg Rollett | CEO, Celebrity Expert® Marketing

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WWW.CELEBRITYEXPERTMARKETING.COM

Mike Conlon | President and CEO, Affordable Communities Group, LLC

"Investing in affordable housing is the best investment opportunity available today. Supply is limited, demand is soaring, it is virtually recession proof, and double-digit returns are readily available. More important, you can change people's lives by providing clean, safe, and affordable places to live.

WWW.ACGMHC.COM AND WWW.MAINSTREETMILLIONAIRE.COM

Tom Shieh | Partner, Smart Money Financial Group & Turnkey Investment Fund

"Clarity is power. People don't just stumble upon financial success and stay there. Before you begin randomly selecting investments, you need to get massive clarity on where you are financially and where you want to be. Then, you can work with industry experts to help determine the best vehicles to help you achieve your outcome.

WWW.SMARTMONEYFINANCIALGROUP.COM AND WWW.TURNKEYINVESTMENTFUND.COM

Bradford D. Creger | President & CEO, Total Financial Resource Group, Inc.

"A great financial advisor is worth his or her weight in gold. But for many, the advisor we choose has more to do with the amount of gold we want to spend. And you can't get a "second opinion" from your current advisors so look for one person who is qualified to review all your legal, tax, insurance and investments himself.

WWW.TFRGROUP.COM AND WWW.TAXEDNEVER.COM

Barry H. Spencer | CEO & Creator, Wealth With No Regrets®

"Once you accumulate enough wealth that should allow you to do what you want, when you want, with who you want, being wealthy is then about doing more than you thought you could do for yourself, family and causes that matter to you. The secret to doing more with your wealth begins with writing down what you want beyond the money.

WWW.WEALTHWITHNOREGRETS.COM

JW Dicks, Esq. | CEO, Dicks + Nanton Celebrity Branding® Agency

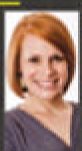
"The best way to rise above your competition and excel in any field is to build your personal brand. Demonstrate to your target market exactly how you answer the need they have and can deliver what they are looking for. Don't try and compete on price but show a strong value exchange for your services.

WWW.CELEBRITYBRANDINGAGENCY.COM

Brian K. Stennett Sr. | Principal Agent, Brian K. Stennett Sr. Agency

"Great communication skills are required to be successful in the new economy. Invest in training, read books, and attend seminars where you can learn how to share concepts, stories, and the right words to educate your audience and they will be honored to learn about the solutions you provide!

WWW.BRIANSTENNETTAGENCY.COM



Lindsay Dicks | CEO, CelebritySites®

"Success is about the choices you make along the way. If you're not where you want to be, in your business or in your life, change it. 'If you always do what you've always done, you'll always get what you've always gotten'. And, if you find something that works, then spend as much money as you can doing it over and over again.

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Gary Tan | CEO and Founder, Pacific Elite Marketing

"As our dermatology industry is getting more and more commercialized, the only way to treat this so called "incurable" Eczema skin disorder is to utilize the RIGHT combination of natural plants. Increasing the dosage of your chemical based medicine is just doing you more harm than good. Start feeding your skin with genuine plant extract if you don't want to constantly feed those dermatologists!

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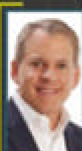
Mark Anthony Garrett | Inspirational Speaker, Author & Innovator, Global Insight Productions

"The greatest leaders and teachers in our world understand that being average is simply not good enough. Our world needs for you to make excellence a guiding foundational principle. Our children need to be inspired by courageous, creative individuals who are ready to expand their consciousness and ascend to another level of existence. Live life with Purpose, Passion and unforgettable Presence.

WWW.MARKANTHONYGARRETT.COM



Bill Walton | President, Bill Walton Sales Training

"Our sales strategy, and the strategy we're putting forth for clients is to help them successfully enter the era of "The Value Creator." Sales teams need to not only articulate their value proposition but to deliver on it. Top performing salespeople (and those that support them) are trading on the business acumen and insights they're bringing to the client interaction.

WWW.BILLWALTONSALESTRAINING.COM

Darrell Holguin | President, Holguin & Associates, LLC

"Are you looking to sell your house fast in today's market? Don't fall into the trap of only following conventional wisdom. Selling today requires you to be creative and familiar with current market strategies, whether it be all cash offers or conventional financing. My number one goal is to find the best solution for your situation!

WWW.GETCASHFORYOURHOUSE.COM

Jaime Westenbarger | President, Forest Hills Financial, Inc.

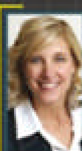
"We live in a world of entitlement and excuses. If you want to be truly successful you must take ownership of what happens in your life, good and bad. Believe you are in charge of your destiny and your success will be so much greater than those blaming everyone else for their failures.

WWW.MYFHF.COM

Gary Marriage Jr. | CEO, Nature Coast Financial & Best Selling Author

"In an increasingly volatile market, you must be educated on the value of "real returns;" not averages or hypotheticals. Many investors choose to allocate funds to safer positions. If you are looking for less risk without loosing all future upside potentials, it is important to select a Financial Company that has increased their product availability. You're winning if you're not losing!

WWW.NATURECOASTFINANCIAL.COM



Sheryl Wolowyk | CEO, Expert Elevation

"In order to succeed in a highly competitive world you need to build your business around your 'money spot'. That's the spot where your knowledge, skills, experience intersect with a viable market niche. Understanding your strengths and where you can play to win, and knowing how to communicate the value you provide is the fastest way to grow your business.

WWW.EXPERTELEVATION.COM

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Smarter Networks Propel Smarter Business

Network-as-a-Service is built on SDN and intelligent orchestration, enabling you to get more out of your existing resources without sacrificing quality or security.

BY JEFF DOYLE

Real-time communications are essential to any business, from basic voice to high-definition videoconferencing. Economics have long driven the migration of these services to the IP "cloud," but, more and more, traditional IP networks are forcing businesses to sacrifice quality of user experience in order to keep capital and operational costs under control. Instead of "throwing bandwidth at the problem," we need a new, comprehensive approach for supporting real-time communications over IP that allows us to get the most out of existing network resources.

Network-as-a-Service (NaaS) is the solution. The advantages of other "as-a-Service" models, such as Infrastructure-as-a-Service (IaaS) and Software-as-a-Service (SaaS), have been appreciated for some time: Virtualized compute, storage and application resources coupled with intelligent orchestration provide service agility and efficient utility-based cost structures. NaaS takes the same approach to networks by virtualizing physical network resources and then coupling to an orchestration layer that can adapt the network to application demands on the fly.

Software Defined Networking (SDN) is the foundation of NaaS, representing the physical network as an abstract model and then providing a unified, programmable interface to an intelligent orchestration layer. The orchestration layer then acts as an arbiter between the needs of real-time applications and the realities of available network resources.

Google has applied this model for several years. Through intelligent monitoring and control of its inter-data center networks, it has safely driven utilization close to 100%. Comparing this to traditional rules that limit network utilization to around 50%, the rewards are clear.

A Perfect Storm

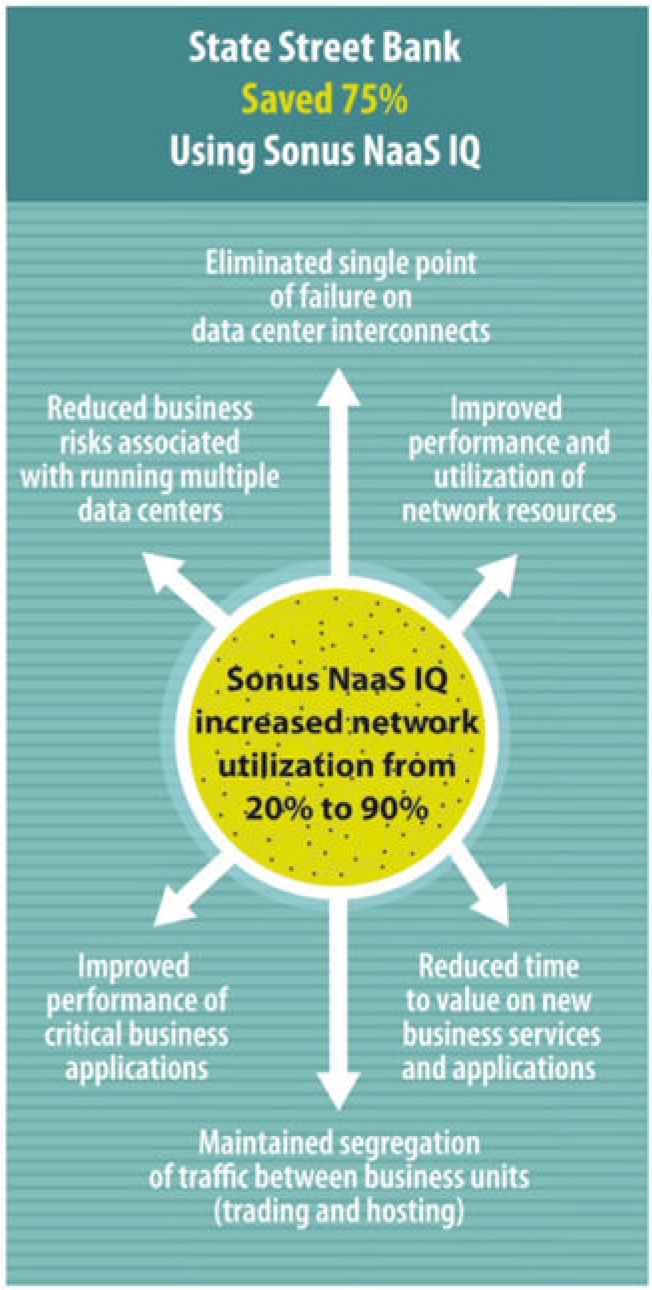
Sonus CTO Kevin Riley explains the dilemma businesses face with legacy networks: "It's no longer economically feasible to just arbitrarily keep adding bandwidth to your network, because the multiplier is too high. For example, if an enterprise has 100 people, a CIO might multiply those 100 people by the cost of a phone call and arrive at a pretty modest number. But if you multiply 100 people by the worst-case needs of a unified communication session, you wind up with a very large number. It starts to become prohibitive."

Addressing the growing complexity of real-time communications by adding more spectrum, more fiber and more nodes creates what Riley calls a perfect storm of inflated costs and poor return on investment. Expensive physical plants are underutilized, inflexible and difficult to manage.

CIOs must seek technologies that allow them to manage their networks more intelligently and dynamically, defining end-to-end policies that align transport with applications to deliver a high quality of experience within tight operational budgets.

Smarter Networks, Smarter Business

SDN is only a part of the NaaS solution. It provides the abstraction and the programmable interface, but not the intelligence. "It's like a fancy new car—but without the driver," says Riley. The orchestration layer sits between the programmable interface and the applications, brokering the demands of the application with the resources of the network. Riley compares the combination to a road system:



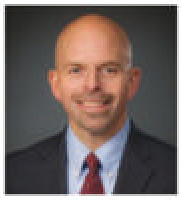
SDN's network abstraction is a map of the roadways, indicating the various options for getting from point A to point B, and how fast you can travel on each. Sonus' NaaS IQ Platform is analogous to toll booths around the periphery of the system, evaluating incoming traffic loads and prioritizing admission.

"The application, such as an audio call or a fully immersive video session, starts up with a certain SLA. The orchestration layer understands the needs of the application and translates that into programmable network actions in real time," Riley explains.

The benefits can be extraordinary:

- ***Improved Quality of Experience (QoE):*** Real-time applications get the resources they need as they need them, which translates directly into a better user perception.
- ***Reduced capital expenditure:*** You're getting more out of your existing network investment and facing less new build-out. One Sonus customer, State Street Bank, increased its network utilization from 20% to 90%, with no reduction in the quality of experience.
- ***Reduced operational expenditure:*** SDN's programmable interface puts an end to the days of touching multiple points of the network to manually configure new services. Automation results in fast, reliable and consistent provisioning and management through a single interface.
- ***Increased network agility:*** New services are rolled out on demand. The result is not only operational savings, but also the capability to adapt to new applications in minutes rather than weeks, sharply improving business responsiveness.
- ***Increased network visibility:*** SDN allows you to create fine-grained models of application and user behavior. This in turn not only enables better policy and admission control, it provides an inherent level of security. Anomalous behaviors can be identified, analyzed and policed.

Sonus' NaaS IQ is an integration strategy, deploying points of intelligent, secure control around your existing network where it matters to you and to your customers. Your network becomes a part of familiar, proven and efficient cloud-based service and deployment models, and the increased network intelligence enables new levels of business intelligence. ■



"It's no longer economically feasible to just arbitrarily keep adding bandwidth to your network, because the multiplier is too high."

—KEVIN RILEY
SONUS CTO

All-In on Oil

America's richest and most successful banker, Andy Beal, is flush and ready to pounce on distressed oil and gas frackers.

BY NATHAN VARDI

THE PAST FEW YEARS have been unsettling for Andrew Beal, the publicity-shy billionaire banker from Plano, Tex. who has a penchant for high-stakes poker. Like other smart money men, Beal is leery of asset prices fueled by central bank intervention. So Beal hasn't been making many loans recently and instead has

Billionaire Andy Beal, owner of Beal Bank, the best little bank in Texas.

MATTHEW MAHON

built up a sizable war chest of capital—enough to make more than $20 billion in fresh loans.

"There has not been anything to invest in. It's the craziest environment, a world flooded with money," says Beal. "It's hard to sit by and pick your nose when you want to be doing deals."

But with West Texas crude prices now down by 50%, to $50 a barrel, and many U.S. oil and gas companies scrambling for cash, Beal has been quietly building an oil and gas lending team at his Texas bank, and though he has yet to close on his first deal, he expects to pull the trigger soon. "We are trying to get real active in the oil patch," he says. "We're looking at some decent-size deals, hiring people—we are going to go after it." According to Beal, volatility will become the driving force in markets once the Fed actually begins raising rates. But this will have little effect on the inevitability of oil's long-term price appreciation.

Andrew Beal, 62, is one commercial banker investors should pay attention to. With a self-made fortune estimated at $12 billion, he is the Warren Buffett of the banking business. Just as Buffett runs his insurance-centered holding company, Berkshire Hathaway, almost as a personal hedge fund, so, too, does Beal run his bank. But unlike Buffett, Beal doesn't have to entertain shareholders at annual meetings because he's the sole owner of Beal Bank, which has 37 retail branches and $3.6 billion in deposits insured by the Federal Deposit Insurance Corp.

A math whiz who left Michigan State at age 20 to earn millions rehabbing and flipping apartment buildings, Beal founded his bank in 1988. It grew fast and became very profitable until 2004, when Beal got nervous about lax underwriting and risky terms in the market for residential and commercial real estate. So he stopped making loans, shrank his assets and all but shut down his bank. Beal spent the next three years honing his backgammon game and learning to race Nascars. After the financial crisis hit, Beal went into action, deploying his capital and snapping up distressed commercial and real estate loans—many from failing or failed banks that had been reckless. He more than tripled his bank's assets to $11 billion, making enormous profits.

Then Beal put the brakes on again. He became convinced that central bankers had helped fuel a new credit bubble. He didn't go as far as he did before the credit crisis—when Beal Bank was laying off workers while the balance sheets of most other banks swelled. But in the last two years or so Beal Bank has been experiencing a high level of loan payoffs as people and businesses refinance their loans. Beal Bank has been originating only about $1.5 billion in loans a year.

By the end of 2014 Beal Bank's assets had shrunk to $7.9 billion, and his dry powder was mounting. Still, the bank was profit-

DIVING FOR DEBT AND EQUITY IN OIL

Making secured loans to hydraulic fracturing and other energy producers is strictly an institutional business, but that doesn't mean there aren't smart ways for individuals to get in on an oil rebound or the resumption of the fracking boom. As a banker Andrew Beal is typically a distressed-debt buyer or a lender to companies at favorable terms. While few energy-debt-focused mutual funds or ETFs exist, it's possible to find well-managed high-yield funds or even distressed funds with big concentrations in energy assets. "We think that having some exposure to some distressed debt or aggressive high-yield mutual funds would play energy well," says Burt White, chief investment officer of LPL Financial. "The other way to play this is MLPs, the pipelines—and what is great is you have good income associated with them, and they have taken an undue amount of damage."

White recommends staying away from betting on the commodity itself. Using ETFs to go long oil means you also get hit with the cost of rolling over the futures contract. —*N.V.*

	TICKER	YIELD	ENERGY EXPOSURE	EXPENSE
WESTERN ASSET HIGH YIELD	WAHYX	6.49%	20%	0.69%
METROPOLITAN WEST HIGH YIELD	MWHYX	4.53	25	0.80
FRANKLIN HIGH INCOME FUND	FHAIX	6.18	25	0.76
VANGUARD ENERGY	VGENX	2.17	98	0.37
SPDR S&P OIL & GAS EXPLORATION & PRODUCTION	XOP	1.40	99	0.35
MARKET VECTORS UNCONVENTIONAL OIL & GAS ETF	FRAK	1.36	100	0.54
FIRST TRUST NORTH AMERICAN ENERGY INFRASTRUCTURE ETF	EMLP	3.16	55	0.95
UBS ETRACS ALERIAN MLP INFRASTRUCTURE	MLPI	4.91	93	0.85

SOURCES: MORNINGSTAR; LPL FINANCIAL.


Strange
INHERITANCE
with JAMIE COLBY
Where there's a WILL, there's a way!
FOX BUSINESS network
Weeknights 9PM ET

able, earning $547 million on $611 million of net revenue last year. Now Beal Bank has in excess of $3.3 billion in equity capital, and its leverage ratio is approaching an unheard-of 50% of assets. The FDIC defines a well-capitalized bank as one that has a ratio of 5% capital. JPMorgan Chase's leverage ratio stands at about 5.9%.

Meanwhile, energy-producing companies, particularly those in the much-hyped hydraulic fracturing business, are busting loan covenants and trying to preserve their loan facilities. Beal is already working potential deals. "You can make some decent loans today that are very well secured," he says. "The only place for oil prices to go is up over the medium to long term. Short term, anything can happen, but oil is not going to go down over the next seven years."

Beal is not the only big investor on the hunt for bargains in the oil patch. Hedge funds like Clint Carlson's Carlson Capital and billionaire Marc Lasry's Avenue Capital have been raising new vehicles to target the debt and equity of energy companies. Likewise the biggest private equity firms have recently raised some $20 billion for energy sector investments and are rushing to do deals. The Blackstone Group, for example, just finished raising a $4.5 billion energy fund in February and is reportedly raising another $1 billion to buy bonds and distressed loans of oil and gas companies. Blackstone's credit division recently committed $500 million to fund drilling programs for Linn Energy and got an 85% working interest in some of Linn Energy's oil and gas wells in return. The Carlyle Group has about $9 billion marked for energy deals, and its co-chief, billionaire David Rubenstein, recently said, "There is no other sector in the world that we are as bullish on as we are on energy."

These savvy financiers are mostly targeting oil and gas debt rather than equity. Already under regulatory pressure, many regional banks situated in drilling areas like Texas are retreating from the oil and gas sector, unloading their loans. Just last year some $230 billion of loans were extended to U.S. oil and gas drillers, according to Dealogic, but now some banks, facing losses, are heading for the exits. "When oil was $130 a barrel they were all lending like crazy. Now it's $50, and they don't want to make a loan," says Beal.

Banker Beal is interested only in extending secured loans to energy producers—those backed by producing reserves and cash flow. "The only lending we will do is the first lien secured facility, and the good news is that appears to be where the opportunity is these days," says Beal. By contrast, hedge funds and private equity players are interested in tranches of debt that are typically subordinated but that can convert into equity or control positions. *(For smart ways to play oil's rebound, see box, p. 62.)*

It would be difficult to find an investor who has played the peaks and valleys of the last decade's credit cycle as skillfully as Beal—even though he is completely removed from the stock market. Beal thinks people who dive into stocks today should be wary. "I am not predicting a crash, but there will be a lot of disappointed investors," he says.

Don't confuse Beal's cautionary tone for an aversion to risk. Beal is a well-known whale at the poker tables in Las Vegas, where his bank happens to have a second headquarters. Winning or losing $5 million or $10 million in a game of Texas Hold 'Em is not unheard of for the brash billionaire, and right now he's prepared to go all-in with his primary asset, Beal Bank, on America's energy sector.

"In my lifetime there have been game changers, but in ten years to have gone from the peak-oil mind-set to where we now essentially have a 100-year supply of free energy—natural gas from $3 to $5—is just unbelievable," he says, noting technological wonders like fracking, which now have the U.S. producing 9 million barrels of oil per day. "How do you take a country like the United States, give us 100 years of free energy and not be optimistic?" *

FINAL THOUGHT

"Do not confuse absence of volatility with absence of risk."

—NASSIM NICHOLAS TALEB

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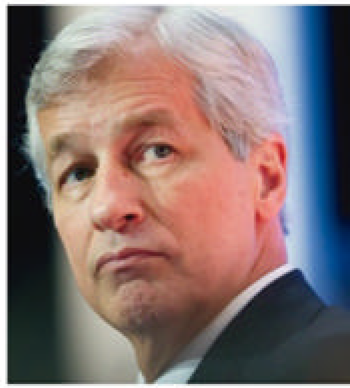
ROYAL DUTCH SHELL
Oil & gas giant cuts $70 billion deal for BG Group as industry hems and haws over price collapse.

PERSON
JAMIE DIMON
In annual letter to shareholders JPMorgan's ever-quotable boss says additional regulatory push won't prevent the next financial crisis.



ANDREW HARRER / BLOOMBERG

IDEA
MAIN STREET MISSES OUT
March of the bulls has been astonishing since market's 2009 lows—but new survey finds 52% of Americans own no stocks at all.

JON D. MARKMAN // TECH INTELLIGENCE

OUT, DAMNED CYBERSPY!

SHARES OF LARGE technology companies have been hammered in 2015, shattering high expectations. Microsoft, Intel, Qualcomm, Oracle and Hewlett-Packard are down 4% to 19% and acting lethargic even when the market perks up.

If you just turn to earnings calls and analysts for an explanation, you would think that the culprit for everything that has gone wrong for U.S. businesses this year is the cold weather.

I suspect the real villain for tech is more sinister: foreign government demands that U.S. companies code "backdoor" entries in software and devices to permit citizen monitoring, and U.S. agency counterdemands that such efforts be reserved for American spying.

Tech companies have been caught in a postmodern catch-22: If they satisfy the demands of foreign governments, they run afoul of U.S. spying guidelines. And if they satisfy the U.S., they run afoul of foreign governments. Neither can be addressed in public.

Sales of U.S. technology overseas, particularly to Asia, are slowing as a result, according to TIS Group, an institutional research firm in Minneapolis. This is deeper than just corporate hardball. It is a new form of mercantilism, a philosophy dating to the 16th century in

LARGE TECH COMPANIES ARE CAUGHT IN A POSTMODERN CATCH-22

which governments project state power through business practices. It's gauche to impose tariffs to shield domestic tech firms, so antispying regulations have taken their place.

Apple, Cisco and Citrix were recently dropped from one of China's official state purchase lists. Their products have been replaced by domestic brands. Call it protectionism if you will, but officials' comments lead one to believe this is a reaction to NSA and CIA spying.

The numbers are staggering. Cisco had 60 products on the state procurement agency's approved list in 2012, but by late 2014 it had none, according to an analysis by Reuters. The network equipment maker's business in China fell by a fifth last year. In the last two years the number of approved foreign tech brands has fallen by a third, and those that are security-related have fallen by half.

Under Beijing's new rules foreign companies that sell technology to Chinese banks will be required to turn over their source code. "I don't know how you do that," said Larry Jeddeloh, chief investment strategist at TIS Group. "My expectation is that you will see more large tech companies pull out of China entirely."

The CIA and NSA are also seen as stumbling blocks for tech companies. Gemalto, a Dutch maker of security components for mobile phones and credit cards, has accused spy agencies of attacking its networks to acquire encryption keys. U.S. tech gear suppliers could be seen as complicit.

In this context, consider the 2013 allegations that the United States had tapped into the cellphone of German Chancellor Angela Merkel. Her government soon hung up on its contract with U.S. telecom giant Verizon, citing spying concerns, and later told the German people to avoid companies that use American servers altogether. This would include the cloud services of Google, Microsoft and Cisco.

NSA Chief Mike Rogers has defended his organization's demand for backdoor entry. He has also acknowledged the competitive risk it could pose for U.S. products overseas. Meanwhile, executives are increasingly frustrated by this new cyber-update to the Cold War. Yahoo security boss Alex Stamos went so far as to challenge Rogers, asking how his company should deal with foreign requests for similar backdoor access.

TIS analysts question whether the U.S. government is more of a threat to tech firms than a partner. I think investors should turn to smaller U.S. companies that do not have as much to lose overseas. The best cybersecurity stocks are expensive, but among the most profitable are **PALO ALTO NETWORKS (PANW, 145)**, with a 15.7 times price/sales multiple; **FORTINET (FTNT, 34)**, with a 7.7 times P/S multiple; and **BARRACUDA NETWORKS (CUDA, 44)**, with a multiple of 9. F

THOMAS KUHLENBECK FOR FORBES

JON D. MARKMAN IS PRESIDENT OF MARKMAN CAPITAL INSIGHT, AN INVESTMENT RESEARCH FIRM BASED IN SEATTLE, WASH.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WILLIAM BALDWIN // INVESTMENT STRATEGIES

THE GUY WITH THE KITTY LITTER STOCK

DO YOU WANT A HOT STOCK? Try Pharmacyclics, which has doubled over the past year and now goes for 230 times earnings. Or GoDaddy, the Web host that recently popped 30% in its first day of trading.

If you have any sense of value, though, you wouldn't touch these with a barge pole. In the late stages of a bull market (ours is now six years old) momentum stocks go up for no better reason than that they have been going up. When the bear arrives, these are the stocks that crash the fastest and the most furiously. The purpose of today's essay is to help you avoid them.

Biotech and the Internet lead the parade of faddish investing themes. Following close behind is another category of stocks that, while not nearly as speculative, are clearly overbought: stocks with good dividends. Income-starved investors are clamoring for the shares of Pfizer, Verizon and funds that buy such companies.

The lust for yield also explains why real estate investment trusts are hot. Vanguard's REIT fund has earned 25% over the past year, almost double the market's return, and almost all of it from price appreciation. Such performance attracts fad-following investors. It scares off wise ones.

BE DEFENSIVE. OWN UNPOPULAR STOCKS

To find some unfaddish stocks I trolled through the $1.1 billion portfolio of Heartland Value Fund. This outfit is a rainy-day star. It lags in bull markets, because it doesn't own what's popular. But it makes up for lost ground by not losing as much during corrections. In the crash of 2000–02, when the S&P 500 lost 45%, this fund was up 9%.

The reason to look at this fund now is that today's market is beginning to resemble the 1999–2000 bubble. The market's overall price/earnings multiple is not as high as it was back then, but the mania for Internet and other tech stocks is eerily reminiscent.

"The herd instinct is alive and well," says William J. Nasgovitz, who started Heartland Value in 1984 and at 70 still comanages it with Bradford Evans. "The biotech sector IPOs are at unbelievable valuations. There's momentum in social media, too. GoDaddy lost $143 million last year, and it probably is not going to make money this year. It has a market cap of $4 billion."

So what does he gravitate to? The unglamorous shares of companies that make things like kitty litter and sewer vacuums.

OIL-DRI CORP. OF AMERICA (ODC, 33) converts clay into an absorbent that can be used on the oily floors of car repair shops and in cat boxes. Its earnings lately have been choppy, but Nasgovitz says it has turned a corner and should earn $2.22 a share in its 2016 fiscal year.

FEDERAL SIGNAL (FSS, 16) manufactures street sweepers, sewer-cleaning machines and whatnot. Heartland Value and a sister fund run by Nasgovitz's Milwaukee money management firm owned, as of the last official filings, a tenth of the company.

Just about anything in the oil and gas business would rate as out of favor these days. Nasgovitz owns **UNIT CORP. (UNT, 29)**, which does contract drilling for other oil and gas companies and owns a collection of its own wells. Earnings are, predictably, ratty. This is a balance sheet bet. Nasgovitz figures that Unit's liquidating value is $46 a share even when you mark down the reserves to reflect the collapse in natural gas prices. "We're holding it because we've had a bear market in oil," says Nasgovitz. "Every bear market I've seen has been followed by a bull market."

IAMGOLD (IAG, 2.05) owns gold mines in sketchy locales like Burkina Faso. Like Unit, this Heartland holding is a value play and a bet on the eventual recovery of commodities. The book value is three times the share price.

It takes a certain resolve to put stocks like these in your account. You have to sit still while the bulls stampede on, leaving you in the dust. But when the crash comes—next week, maybe?—you'll be less likely to panic and sell. F

THOMAS KUHLENBECK FOR FORBES

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BONNIE BAHA // BOND SENSE

NAVIGATING RIGGED MARKETS

THE CONSENSUS SCRIPT for Greece reads something like this: The Europeans will manage to kick the drachma down the road yet again, extending the Greeks' sentence in economic purgatory. No tragedy there. But here's the deus ex machina: Even if Athens defaults and exits the euro, the global audience will enjoy a happy ending. After all, the Hellenic Republic represents less than 2% of euro zone GDP and less than half of 1% of global GDP. Likewise Greek sovereign debt amounts to a drop in the euro zone bucket. How bad could default be? Painful for the Greeks but a nonevent for the rest of us.

This kind of wishful thinking makes me cringe. Greece is not, as her ancient Roman neighbors might have said, sui generis—unique unto itself. Much larger countries—euro-denominated and euro-indebted—share the same afflictions. Spain faces unemployment, especially among young adults, at levels risking civil unrest. Italy is in demographic free fall. France is plagued by long-standing deindustrialization. A Greek default could well foreshadow the unraveling of one or more of these Mediterranean sovereigns.

DON'T TRADE SAFER FIXED-INCOME STRATEGIES FOR RISKIER ONES YOU DON'T UNDERSTAND

The world's central banks have made it very difficult to assess the euro zone's vulnerability to cross defaults among sovereign credits. Quantitative easing has rigged market prices—more than a decade of it in Japan, six years of it in both the U.K. and the U.S., and now QE in the euro zone. As a result, relative values among different sovereign credits, and asset classes, have been masked.

Free market capitalism is supposed to mean no bailouts. Obviously Western governments have ignored this. But the euro zone has taken this indulgence to a new low, with sovereign bailouts becoming the norm. A drachma-denominated Greece would have defaulted on its debt and devalued its currency years ago. Sovereign default and euro exit may still be the ultimate outcomes. However, owing to the construct of the euro zone and around-the-world QE, we have no road map for working out Greece's final destination—or contagion risk.

Broadly speaking, almost all fixed-income instruments include interest rate risk. In addition to interest rate risk, a corporate bond has credit risk. So the market will demand that corporates offer a spread over the prevailing "risk-free" rate to compensate. This rate is based on securities issued by the most creditworthy sovereigns. That's because robust national governments can print money and raise taxes. The risk-free rate is a key building block in rational market pricing.

In adopting the euro, all member countries relinquished their sovereign power to print money. Therefore, Greece is left to rely on its capacity to raise taxes. In a country where two out of three workers either understate their earnings or fail to disclose them at all, the idea of raising taxes to generate more revenue is laughable. Being on the brink of default is normal for Greece, which has defaulted on its debt on five separate occasions.

QE is not only blurring investors' market optics, it's causing perverse side effects. In Switzerland interest rates are negative.

What should a dollar-based investor do?

First, don't trade safer fixed-income investments for riskier strategies that you don't understand. Even in a low-rate environment, high-quality fixed income remains the best way to reduce the overall risk of a portfolio. Second, avoid or underweight euro-denominated assets. Third, underweight U.S. stocks that have outsize revenue exposure to Europe. Some U.S.-domiciled multinationals generate as much as 30% of their earnings and revenues in Europe. Dollar strength may sap that book of business in coming quarters.

A final thought: Regardless of its resolution, the Greek problem likely will bedevil Europe's common currency for the foreseeable future. If Greece is to stay in the euro zone, the European Central Bank will have to engage in euro-debasing volumes of QE. A Greek exit could well tempt Spain and Italy to go their own monetary way. F

MONEY MANAGER BONNIE BAHA IS DIRECTOR OF GLOBAL DEVELOPED CREDIT AT DOUBLELINE CAPITAL LP IN LOS ANGELES.

THOMAS KUHLENBECK FOR FORBES

Features May 4, 2015

Left for dead by the pundits, major record labels have quietly saved—and strengthened—their grip on the music business by snatching up billions of dollars of equity in startups like Spotify. But don't expect your favorite act to get rich on the deals. Says pop legend John Oates: "The artist is always the low man on the totem pole."

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PHOTOGRAPH BY STEPHEN WEBSTER FOR FORBES

THE TWINKIE MIRACLE

With ingenuity, capital and a little creative chemistry, billionaire C. Dean Metropoulos and Apollo Global's Andy Jhawar rescued one of America's most beloved snacks—and set themselves up to feast on a $2 billion gain.

BY STEVEN BERTONI

PHOTOGRAPHED BY JAMIE KRIPKE FOR FORBES

Walk in the door of Hostess Brands' flagship bakery in Emporia, Kans. and your first thought is: What a dump. The former front office for the bakery that pumps out classic American treats like golden Twinkies and swirl-topped CupCakes is a series of dank, near-empty rooms with scuffed, oatmeal-color linoleum floors, water-stained ceiling panels and a jumble of mismatched office furniture that looks like it was picked up off the curb. Three minutes in this place and you're suddenly thankful for the wilted sign on the front door warning visitors that firearms are barred from the premises.

This grim wing of the Hostess plant is a leftover from the old Hostess—the one that debt, pension costs and mismanagement shuttered in 2012. But throw on a hairnet and pass on to the newly rehabilitated factory floor, and it makes sense why billionaire C. Dean Metropoulos, Apollo Global senior partner Andy Jhawar and Kansas Governor Sam Brownback are standing here, breathing in the sticky sweet air on a foggy April morning.

The new factory is bright and clean. Tight rows of Twinkies march along the $20 million Auto-Bake system with the precision of Soviet soldiers in a May Day parade. Yellow robotic arms, which look like they should be welding Teslas rather than boxing Twinkies, stack snacks with hypnotic rhythm. This 500-person plant produces more than 1 million Twinkies a day, 400 million a year. That's 80% of Hostess' total output—output that under the old regime required 14 plants and 9,000 employees. And it's about to get more efficient: Metropoulos and Jhawar just installed a second Auto-Bake system, this one for CupCakes, and the governor is here to cut the ribbon.

In truth, it's more a resurrection of an American icon than a ribbon-cutting. Hostess' closing was a cultural moment across the U.S., offering proof of the dire state of American manufacturing. After over a decade of failing health that saw two bankruptcies and five different CEOs,

Cake boss: Dean Metropoulos has spent 35 years turning busted brands into blockbusters.

WHO'S HUNGRY?

Metropoulos and Apollo aren't the only ones who see opportunity in the grocery aisle. 3G Capital and Berkshire Hathaway just backed Heinz's takeover of $52 billion (market cap) Kraft Foods. Here's a look at five other names that could prove to be tempting takeover targets:

	MONDELEZ INTERNATIONAL CHIPS AHOY, OREO, PHILADELPHIA, RITZ	**NATIONAL BEVERAGE** FAYGO, EVERFRESH, SUNDANCE NATURALS	**J.M. SMUCKER** SMUCKER'S, FOLGERS, PILLSBURY, CRISCO	**SNYDER'S-LANCE** SNYDER'S, LANCE, JAYS SNACKS, STELLA D'ORO	**LANCASTER COLONY** MARZETTI, NEW YORK BRAND, SISTER SCHUBERT'S
1-YEAR SALES GROWTH	-3.0%	-3.2%	-4.9%	-8.0%	-10.7%
P/E RATIO	29.2	23.6	21.3	11.8	27.5
CURRENT SHARE PRICE	$37.4	$24.8	$115.6	$32.1	$96
5-YEAR PRICE HIGH	$42.5 (10/1/12)	$26.8 (11/13/14)	$117.2 (4/6/15)	$32.4 (4/6/15)	$99.4 (3/31/14)
OPERATING MARGIN	12.3%	11.1%	17.1%	6.9%	13.7%
DIVIDEND YIELD	1.6%	0%	2.2%	2%	1.9%

Hostess finally died on Nov. 16, 2012 after the baker's union pulled the plug with an ill-conceived nationwide strike. Hostess' roots went back more than 150 years. It left behind 36 factories, 5,600 delivery routes and 19,000 jobs, creating something of a national mourning, not just for the brands but also for what the demise seemed to say about the country itself.

Others thought Hostess got what it deserved. After all, Hostess products—preservative-packed calorie bombs with ingredients that read like a chemistry textbook—flew in the face of food trends that favored farmers' markets over factories. It looked like Hostess, a Frankenfood fossil from a chop-and-potato-era that nutritionists would like to forget, had finally hit its expiration date.

But while you wouldn't find Twinkies on Whole Foods' shelves or in Gwyneth Paltrow's pantry, Hostess had something you can't find in a locally sourced, chia-seed snack—millions of nostalgic fans. "The brand awareness was unbelievable," says Jhawar. "It's not every day you have an opportunity to acquire a brand that is ubiquitous, that had $1 billion in revenue before the bankruptcy and 80-plus years of legacy."

Acquire they did, plunking down $410 million for the cake brands and promising to inject another $250 million to rehabilitate the business. Now, just two years after buying the shuttered company, they sit atop what will likely be a $2 billion win. "They've worked magic with their business concept and have made Hostess one of the most efficient and effective companies in the entire food industry," says Joseph Gatto, a partner at Perella Weinberg, who brokered the sale to Metropoulos and Apollo.

How they'd do it? Cherry-picking top assets, modernizing manufacturing and distribution, doubling the shelf life of products and capitalizing on the rare place in pop culture Hostess products still held. "People walk up and thank me for bringing back Twinkies," says Metropoulos, who has previously rebuilt brands like Bumble Bee Tuna, Chef Boyardee and Pabst Blue Ribbon. "No one ever thanked me for saving Vlasic pickles."

The history of Hostess is anything but short and sweet. The company dates back to 1849, when Ward Baking Co. opened a single shop in lower Manhattan. Ward gradually acquired regional players, changing its name to Continental Bakeries in 1925. It bought Wonder Bread maker Taggart around the same time. The Twinkie was born in 1930 from Depression-era efficiency: James Dewar, an employee at a Chicago-area plant, needed something to do with unused strawberry shortcake pans when the fruit was out of season.

Early Twinkies were stuffed with banana cream until a banana shortage in World War II forced the switch over to vanilla. Ads on *The Howdy Doody Show* and in *Batman* comics made Twinkies a postwar cultural staple. So did murder. When Dan White assassinated San Francisco Mayor George Moscone and City Supervisor Harvey Milk, a gay rights icon, in 1978, his lawyers argued that sugar-laden junk food helped stoke his insanity—the "Twinkie Defense" was born.

By then the baker was owned by International Telephone & Telegraph, a massive New York conglomerate that once invested in a firm that built warplanes for the Nazis. It had bought Hostess in 1968 to add to its tangle of companies that included everything from Avis Car Rental and Sheraton Hotels to South American telecoms and a Navy weapon systems

MONDELEZ: DANIEL ACKER/BLOOMBERG

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Sweet returns: Andy Jhawar cooks up Apollo Global's food and retail plays.

manufacturer. In 1984 ITT unloaded Hostess to Ralston Purina for $475 million. In 1995 Purina sold it to Interstate Bakeries for $560 million. That deal created the largest baker in the U.S., with $3.2 billion in sales and eventually 58 factories, 1,250 outlet stores and 10,500 delivery routes.

The business soon grew stale. Sales dropped as health-conscious consumers shunned carbs—Sno Balls weren't exactly part of the Atkins Diet. Missed earnings in October 1998 sent shares down 25% in one day. Meanwhile, pension costs and commodity prices climbed. While competitors modernized manufacturing and switched to warehouse-based shipping, Hostess bandaged old machines and stuck to its cash-burning store-by-store delivery network. By the spring of 2004 debt topped $700 million. Interstate filed for Chapter 11 in September 2004. And in Chapter 11 it stayed—for almost five years. Over that time the workforce was trimmed to 25,000 from 32,000, eight factories were closed and unions agreed to severe benefit cuts.

Interstate came out of bankruptcy in early 2009 with a new owner—New York private equity firm Ripplewood Holdings, which paid $130 million for control of the company—and a new name, Hostess Brands Inc. What wasn't new: the high pension expenses (the health bill for retired employees was more than it was for current employees), the inefficient delivery system and a massive debt load (hedge funds Silver Point and Monarch ponied up the majority of the $360 million worth of senior loans). "How many companies come out of bankruptcy with more debt than when they went in?" says W. Todd Roberson, a professor at Indiana University's Kelley School of Business who has studied Hostess' operations. "They were buying time for the status quo and failed to address the real issues with the company."

The massive recession didn't help. By January 2012 Hostess was in Chapter 11 again, and by summer Hostess was running an operating loss of $1.06 billion, with $2.47 billion in sales and $2.5 billion in liabilities. Pension expenses topped $930 million. Management called for more union concessions. The bakers union staged a strike. For weeks Hostess became a soap opera that those with agendas tried to turn into a parable, whether about a lack of U.S. innovation, the last stand of organized labor or the revenge of American obesity.

With private equity owner Ripplewood now underwater, its equity value wiped out in the bankruptcy, the debt-holding hedge funds weren't interested in any such hand-wringing. They just wanted their money back. With the unions myopically unwilling to make concessions necessary to make Hostess viable, the debt-holders shuttered it, engendering those "end of an era" editorials nationwide. With far less fanfare, in the hope of recovering some of their $360 million, the hedge funds held a Chapter 7 bake sale.

When Andy Jhawar heard of the Hostess liquidation, his first call was to C. Dean Metropoulos, a 68-year-old specialist in turning battered food brands into tidy profits. Over 35 years he had rehabbed dozens of businesses, from PAM cooking spray to Pabst Blue Ribbon—in 2000 FORBES dubbed him Mr. Shelf Space—creating an estimated $2.2 billion fortune for himself. Food was in his blood: His father farmed in Greece before moving the family to Watertown, Mass. when young Dean was 10 years old. Metropoulos earned a B.A. and an M.B.A. at Babson College, and pursued a Ph.D. in international finance at Columbia while working at General Telephone & Electronics (which would merge with Bell Atlantic to form Verizon). He decided he liked business better than books, ditching Columbia for a real-world Ph.D. at GTE's European unit. "I used to travel 30 days a month and worked in 75 to 80 countries." There was telecom in Mexico, Argentina and Iran; lighting in Italy; television tubes in Germany; joint ventures in India, Japan and Australia.

At age 32 he made his first American acquisition—a cheese company in his wife's native Vermont. He bought two other cheesemakers and flipped the business. Cheese taught him an important lesson. "Food brands have a different connection with people, unlike, say, a lightbulb company," says Metropoulos. In the 1990s he teamed with Dallas private equity firm

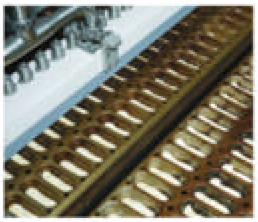
JAMIE KRIPKE FOR FORBES

TIME TO MAKE THE TWINKIES

The rejuvenated Hostess bakery in Emporia, Kans. whips up more than 1 million Twinkies a day—and over 400 million a year. Below, Dean Metropoulos shares his family recipe for making one of America's guiltiest pleasures. Total time: 24 hours. Makes: 1,000,000 servings.

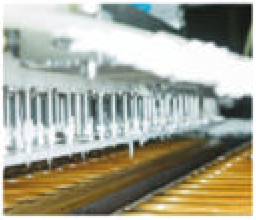
1

Stir 50-pound bags of Twinkie mix (flour, sugar, salt, xanthan gum and much more!) into a 2,000-gallon mixer with water, corn syrup and vegetable glycerin.



2

Add batter to endless flow of greased, 72-cake Twinkie pans. Bake at 400 degrees for 15 minutes in $20 million Auto-Bake Serpentine oven. Cool with industrial fans.



3

With 216-nose hydraulic cream-injector, stuff 72 golden cakes with vanilla filling. Estimated time: one second.

4

To prevent Twinkie traffic jam, use laser guidance system to align cakes as they zip by on conveyer belt.

5

In two seconds, cover and heat-seal individual cakes in plastic wrappers. Use high-tech robot arm to box. Serve within 65 days.

JAMIE KRIPKE FOR FORBES (5)

Hicks, Muse, Tate & Furst, buying unloved food businesses. In 1996, with Hicks' backing, he acquired International Home Foods, using it as a platform to scoop up classic brands like Dennison's Chili, Bumble Bee Tuna and Chef Boyardee.

His two sons, Evan and Daren, joined Metropoulos in the family business early. As young boys, they say, they got tossed from stores for rearranging the family's brands on the shelves, and as teenagers they convinced Dad to market Chef Boyardee with WWF wrestling. "It transformed the brand," Metropoulos says with a big smile. "We'd shoot commercials with stars like Mankind and Steve Austin pitching jumbo meatballs for hungry teenagers. The Rock would sleep at our house." About a decade later Evan and Daren persuaded Dad to purchase hipster beer brewer Pabst. The sons served as co-CEOs. In 2014 the family sold it to Oasis Beverage for an estimated $750 million—tripling their money in three years.

Metropoulos and Jhawar, 43, who leads Apollo's retail and consumer brand deals, had first met in 2011 at the urging of Rothschild banker P.J. Moses. They had since looked into potential deals in Sara Lee, Morningstar Food and Del Monte but never pulled the trigger. During their first Hostess call the pair discovered they had both independently considered buying the company in the past but decided there were too many legacy problems. "The way the company had been structured, it would be difficult to transform," says Metropoulos. "I took a look at it and said, 'I'm not taking on all this baggage.'"

But the liquidation had washed away everything. Yes, the company was gone, but so were the pension costs, the union contracts and the debt. It also unbundled the brands, allowing investors to carve out the best businesses. "We didn't have to take on the factories or the routes," says Metropoulos. "We didn't have to take all the historical drags on the company."

Metropoulos and Jhawar targeted the cake business: It had the best recognized brands (Ding Dongs, Ho-Hos and Zingers, in addition to Twinkies and CupCakes) and the longest shelf life. They signed nondisclosure agreements with Hostess banker Perella Weinberg, dug through documents and visited factories in California, Kansas, Illinois and Indiana. They built a business plan from scratch and bid $410 million—4.1 times the $100 million in Ebitda they forecast to make in the first year of operation. An additional $250 million would go into rehabbing the company. Closing costs and lawyer fees would add another $20 million or so, for a total outlay of about $680 million. Apollo put in about $140 million in equity, Metropoulos $40 million—a $500 million debt offering covered the rest.

They expected others to enter the auction. No one else bid. "It was the risk. This was a rare circumstance in history when you see a company go completely off the shelves and have no employees, have empty factories and no working capital," says Jhawar. "We saw the opposite—this was an opportunity to take a great brand and for the first time be able to reinvent it."

Before they could reinvent Hostess, the new owners had to rebuild it—no small thing. The deal closed in April 2013. For their $410 million Metropoulos and Apollo got those cake brands, the recipes and five factories. There were no employees, no marketing, no delivery routes, no shelf space—no sugar or cocoa or flour. No one had bought a Twinkie or a Ding Dong for six months. Moreover, the new business plan called for the same output using a fraction of the labor. The old Hostess dessert division required 9,000 employees and 14 factories to pump out just under $1 billion worth of cakes a year. The new plan called for 1,000 people and five plants (that number was soon cut to three as one was sold, another shuttered). William Toler, a veteran of Metropoulos turnarounds, was brought in as CEO.

Metropoulos' recipe was threefold. First he spent $110

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million modernizing the remaining factories—everything from automation (massive, new $20 million Auto-Bakers) to improving airflow in the bakeries so they'd be more tolerable for workers in the hot summer months. "You must improve employee conditions, fix the cracks on the floor and those types of things," says Metropoulos. "It affects the pride, energy and culture of the plant, and that translates into everything." Next came a $25 million SAP software system to manage inventory and logistics.

Shipping posed the biggest challenge of all. Because Wonder Bread had a shelf life of only a few days, the old Hostess relied on more than 5,000 delivery routes to drop off product to individual stores several times a week. It was incredibly expensive (each route required a driver, a truck, gas and insurance), eating up 36% of revenue each year. Worse, it limited the stores that could be reached. Gas stations and convenience stores were too small to warrant a stop. Dollar stores and pharmacies used independent distributors and were unreachable with this network.

Since the new Hostess just had the cakes, not the bread, it could rethink everything. A switch to a centralized-warehouse model would both save money and get Hostess products into more shops. The problem: Twinkies—with a reputation as the cockroach of the food kingdom, able to survive flood, famine and nuclear war—had a shelf life of only about 25 days. And since the warehouse model meant food might have to sit in storage as long as two weeks, even Twinkies risked going stale.

"WHEN WE SAW AL ROKER EATING TWINKIES ON TELEVISION, WE KNEW WE HAD SOMETHING SPECIAL."

The magic bullet turned out to be chemistry. Metropoulos spent millions on R&D, working with food lab Corbion to tweak the formula of starches, oils and gums in Twinkies, finally arriving at an acidity level that would prevent staleness and discoloration. The singular goal: Make the Twinkie warehouse-friendly. And while none of this will make Alice Waters' heart flutter, the team succeeded in making the indestructible snack even more so—it's shelf life was more than doubled, to 65 days. Hostess switched to a warehouse system. Delivery costs dropped to 16% from 36% of revenue, and Hostess' retail reach expanded greatly. "We now ship to all Wal-Marts, dollar stores, 100,000 convenience stores, plus vending machines and food services," says Jhawar. "There is no reason why Hostess can't be sold in any place that sells candy bars."

In July of 2013—less than four months after Metropoulos and Apollo took over operations—the Twinkie was back. Just like its death, news of Hostess' rebirth blew up the Internet, social networks and television. Twinkies were on *Jimmy Fallon* and the *Ellen* show. During the *Today* show Al Roker shot a three-minute spot riding shotgun in a Hostess truck and then tossing Twinkies to screaming fans. "When we saw Al Roker eating Twinkies on national television, we knew we had something special," says Evan Metropoulos. "The free exposure we got from the media was incredible—they started pitching us stories."

To feed the fire, Evan and Daren Metropoulos tapped celebrity friends like Will Farrell, Snoop Dogg and Howard Stern to hawk Hostess. They built a giant countdown clock in Times Square. Marketing teams flooded college campuses, throwing parties with Twinkies and Pabst beer, creating a ton of viral content for social networks. And Hostess' brief earlier demise was the best marketing tool of all. Says Dean Metropoulos: "My suspicion is that if Hostess hadn't gone out of business, if we had just taken it over while it was still running, we wouldn't have gotten this reception."

Fans flocked to stores. Demand was so high that large retailers waived the slotting fees they usually charge brands for shelf space. The Metropoulos and Apollo business plan had predicted $100 million worth of Ebitda for 2014—instead they hit $178 million. Those numbers make Hostess' $410 million price tag look dirt cheap—2.3 times Ebitda in an industry where companies get 12 times. Hostess is on track to top $200 million in Ebitda this year—which, looking at comparable businesses like Flowers Foods, values Hostess north of $2.5 billion. Take out what's left of the $500 million they borrowed to buy the company and Metropoulos and Apollo—if all goes according to plan—could make $2 billion on a $180 million equity investment in just two years. "What they've done at Hostess should be a Harvard Business School case study on how to turn around a business," says Gatto, the Perella banker.

Metropoulos won't comment on a potential exit, saying only that a sale or an IPO is in the cards. Meanwhile, several sources say he and Apollo are already shopping the company. Pitch books filled with comps like Hershey's and Mondelez went out to a handful of major players, including Grupo Bimbo and Flowers, in early April. While that unfolds, Metropoulos is eyeing hipper versions of Hostess classics, with flavors like sea salt caramel and red velvet. He's also targeting new customers, especially the fast-growing Hispanic market. And then at some point, with the story of the Twinkie established as management triumph rather than tragedy, he'll move on to the next mismanaged brand. "We've had almost 80 businesses, and they've all worked out very well," he says. "That just fuels my energy to do the next one." F

REINVENTING AMERICA

MANUFACTURING INNOVATION

To spur breakthroughs, midwestern industrial giant Parker Hannifin let a maverick engineering boss unleash his own brand of Silicon Valley startup culture. How far will the experiment go?

BY DAN ALEXANDER

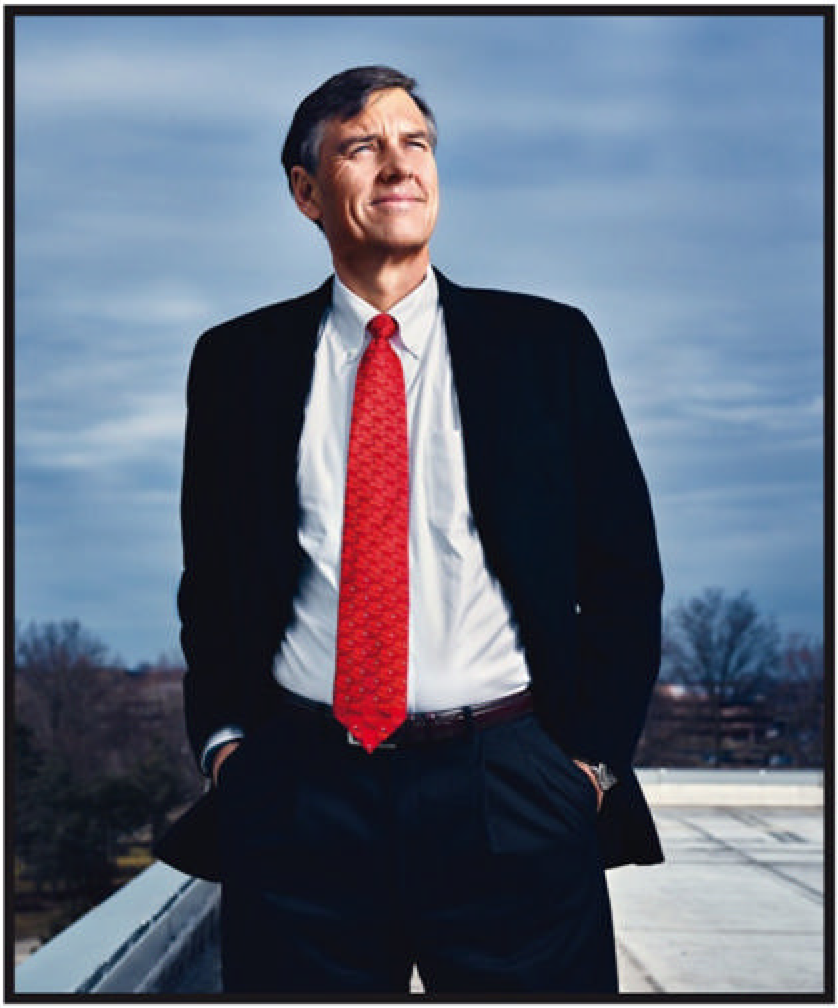
PHOTOGRAPH BY STEPHEN WEBSTER FOR FORBES

Moving pictures: Paraplegics like David Carter are up and walking thanks to Parker Hannifin's innovative exoskeleton.

Twenty miles from Parker Hannifin's monolithic headquarters in Cleveland, Craig Maxwell darts from room to room in the company's newly opened "hacker space," unable to hide a grin. Sparks spit into the air as one engineer builds a trash truck that operates entirely by a hydraulic system and a battery-powered motor. One room over, another engineer opens up an explosion-proof chamber where he conducts experiments key to building faster pumps for the oil and gas industry. Across the hall a 30-year-old shows off a functioning exoskeleton that allows paralyzed people to walk.

It's not the scene you would expect inside Parker, the faceless $13 billion industrial giant known (by people in the business, if few others) for making parts that go into trucks, cars, airplanes and tractors. And that's exactly the way Maxwell, the company's engineering boss, planned it. When he first sketched designs for this space in a job interview 13 years ago, he told Parker's top executives that if they wanted radical innovation, they had to create something completely different from Parker's stolid headquarters or greasy factories. After more than a decade of pleading with efficiency-first bosses, Maxwell officially opened the place in January, and he can't help but smile at its doodle-covered walls and orange-colored kitchen—markers of his latest victory in a long, trying battle to create an internal startup scene at Parker, complete with breakthrough products, angel investors, venture capitalists, twentysomething entrepreneurs and the potential for multimillion-dollar exits.

"You wonder why so many big companies just cease to



It took Maxwell a decade to change Parker. "It becomes a defensive kind of posture."

exist," says Maxwell, 56, talking over the buzz of machines shaping prototypes. "It has something to do with taking the hill versus holding the hill. And when you're mature and successful, you're on top of the hill. And so now it becomes a defensive kind of posture."

Just ask companies like Kodak, which invented digital photography, then stuck to film for too long and ended up in bankruptcy—while Instagram, Facebook, Pinterest and Snapchat took over the Internet. Or RadioShack, which built a company around selling high-tech gizmos yet somehow missed the transition to e-commerce.

"For big companies to thrive and succeed, they need to be innovative—they all know it, but nobody has really cracked the code yet," says Bill Aulet, the managing director of MIT's entrepreneurship center. "That's why this whole thing with Parker Hannifin is so interesting, because you never would have thought that a $13 billion conservative company, in an old-line business, would be the one to solve it."

But, Aulet adds, Parker isn't quite there yet. The exoskeleton is still going through the FDA approval process, and the new trash truck is nowhere near ready for the road. Parker admits that only about one-quarter of its 142 divisions are hitting their innovation-based growth targets today. Over the last five years Parker's gross profit margins, which should theoretically soar if the company is churning out breakthrough innovations its competitors can't easily replicate, have barely ticked up, from 21% to 23%. And its total sales have grown at a rate of just 5% per year if you take out the effects of acquisitions and currency-rate changes.

Unless those metrics improve, investors will continue to view Parker as just another boring old industrial company, no matter how much it brags about its new toys. Parker's stock has produced a compound annual return of 15% since 2010, on par with the S&P 500 and the S&P 500 Industrials Index. "I don't know of any financial analyst who incorporates any of this into their financial model," says Eli Lustgarten, an analyst at research firm Longbow Securities. "They've got technology worth shouting about, but you have to bring expectations within a realistic framework."

Still, the company's top brass is counting on Maxwell. "He has laid a foundation; he has laid processes," says Tom Williams, a 12-year Parker vet who took over as CEO in January. "He has laid a vision for how we should be structured."

Last June Craig Maxwell sat in an auditorium flanked by the most important executives at Parker Hannifin. To his left was Don Washkewicz, the 64-year-old CEO who had joined the company straight out of college and would retire from the top job within a year. To his right sat Williams, the gray-haired operating officer, next in line to take over as chief executive. Maxwell trained his eyes on a string of nervous engineers, who had flown in from all over the world for this meeting. They got one short presentation to show off their inventions, which in many cases had required years of work, then faced an assault of questions from the executives. Who else is making this sort of thing? Why aren't the margins on it higher? Why should we invest?

It was a scene straight out of the ABC hit *Shark Tank*—but with bigger stakes. Parker spends $410 million a year

LUKE COPPING FOR FORBES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PARKER'S PLAYBOOK

A $13 billion publicly traded company, Parker Hannifin is the sort of place where careers live and die by financial metrics. Yet for years the company had no effective way of quantifying innovation. "It was kind of like, 'Send money, trust me, it's going to be good,'" says R&D boss Craig Maxwell. Since then he's developed a more measurable, systematic approach:

SET GOALS; DON'T MICROMANAGE Every division must increase its sales from inventions by 4% every year. How they get there is up to them. Maxwell's role is to advise each division on its innovation portfolio.

DATA IS EVERYTHING Teams who come up with new products must enter a series of data points into a custom software system, including projected time for development, predicted revenues, estimated margins and target industry.

CHART PROGRESS Custom software is used to chart how much money Parker will make from every product in each of the next ten years, discounting for business and technical risk (but not for the engineers' likely overconfidence).

BE REALISTIC At any given point the company has 1,700 projects in the system. Roughly 90% of them will never make it to market—a nod to the fail-early, fail-often mantra of startups.

BUT BE PUSHY, TOO Using his sweeping view, Maxwell makes sure Parker's divisions are ready with years of innovations coming down the pipeline. Or, more commonly, pointing it out when they aren't. "Without all of these metrics, we had nothing," says Maxwell. "People are most creative when they're under pressure."

on research and development, and Maxwell controls a $20 million fund to feed employees' wildest ideas. One group presented a simple way to streamline operations for oilfield service companies like Halliburton. So-called frac balls are used to plug up a section of pipe and increase water pressure during fracking. Traditionally these companies had to go back into the ground to drill out the balls and reopen the pipe. Parker's engineers created frac balls that dissolve, saving time—and money. Parker ramped up production and expects to be selling more than $50 million of dissolving frac balls in five years.

An earlier version of the hydraulic trash truck, which cuts fuel costs by 30% to 50% for sanitation trucks, city buses and delivery vans, also came out of the competition. FedEx and UPS drivers are already behind the wheel, experimenting with the vehicles. Even with the decline in gas prices, Parker expects to take in $200 million a year from the product by 2020. Numbers like that earn investments, along with star status for the inventors who come up with the concepts. "Turns out engineers aren't just geeky," Maxwell says. "They're actually quite competitive."

But Maxwell knows not all big ideas will come from inside. He found the technology for the exoskeleton

that allows paralyzed people to walk in a research lab at Vanderbilt University four years ago. He hired one of the Ph.D. students working on the suit, Ryan Farris; licensed an early prototype; and launched a "startup" to independently develop the concept within Parker Hannifin. In 2014 Farris made the FORBES 30 Under 30 list of young innovators, and Parker expects to start selling his product late this year. Four other companies have popped up around the world with rival designs, but Parker's product is lightweight and can break apart to fit into a carry-on suitcase. Parker predicts its exoskeleton and future spinoffs—think superpowered factory workers and superhuman soldiers—will carve out a $500 million share of a $2.5 billion market by 2020.

Given that Parker has invested only $25 million or so in the exoskeleton so far, the appeal of Maxwell's in-house incubator is easy to see. Maxwell took a chance buying the initial license with his fund. When that gamble proved worthwhile, one of the company's seven branches jumped in to get a piece of the action, putting its own money behind the project and teaming up with Maxwell—just as one venture capitalist might team up with another. "It's the same model," Maxwell says. "I'm the angel investor that has a different risk profile than the operating group president."

Long before Parker Hannifin was forgotten as an industrial dinosaur, it was a scrappy young startup with big ideas. In 1918, 33-year-old Arthur L. Parker invented a braking system for heavy vehicles, put a patent on it and started a business. Ten years later he had expanded into airplanes and earned a reputation for extremely reliable products. Charles Lindbergh specifically requested Parker parts for the *Spirit of St. Louis*. Business took off during World War II, when the U.S. Air Force bought more valves and fluid connectors from Parker than any other company. But when Arthur Parker passed away in 1945, much of his company's entrepreneurial spirit died, too. Over the next six decades Parker clung to its innovative roots—designing parts for NASA's first moon landing in 1969 and making the control equipment behind the bite of the great white in the 1975 blockbuster *Jaws*. But mostly Parker grew by following the guidebook for corporate expansion, swallowing hundreds of smaller competitors, spreading into markets all over the world and maintaining a ruthless focus on earnings over innovation.

Maxwell joined Parker in 1996, leaving a rival com-

Annual sales of Parker's new drive systems, which turn trash trucks into hybrids, could hit $200 million by 2020.

pany in Connecticut to take a midlevel managerial job at a Parker division in California that made automotive filtration systems for companies like Ford, John Deere and Caterpillar. Early on he embodied the conservative corporate ethos. Dressed in shirt and tie, he says, he scolded any employee he caught surfing the burgeoning Internet, telling his workers to stop wasting time. When they showed him how they could do research through AltaVista, a precursor to Google, he reversed course. Maxwell began embracing the freewheeling California spirit but injected it with a dose of East Coast rigor, pushing his team to come up with newer, more sophisticated products. The division had been selling filters for $3 apiece, but under Maxwell's leadership it built an entire fuel system that sold for more than $100, got Ford to put it in its new F-250 diesel pickup and boosted sales an average of 18% a year over six years.

That caught the attention of top management, which invited Maxwell to interview for Parker's head engineering job in 2002. Figuring he had little chance at the position, given that he had no advanced degree or corporate managerial experience, he stood up in the middle of his interview with then-CEO Washkewicz and told him Parker had been doing it all wrong. He grabbed a marker and started drawing out a plan for a separate space that would incubate internal startups. He got the job, but his request for hacker space was flatly rejected. Instead his startups had to rent space in greasy factories from other divisions.

Undeterred, Maxwell set about redefining research and development. Engineers at Parker had always had some free time to work on pet projects, but Maxwell set up a new career track for mad-scientist types who didn't want to become managers—and gave them the freedom to decide how best to spend their days. "Google talks a lot about what we've been doing for a long time," Maxwell says. "Twenty percent of the time you've got to do expense reports and budgets and all that, but really the other 80% of the time, especially in this profession, it's really up to you to figure it out."

That doesn't mean it's all playtime. Parker meticulously tracks its inventions and the engineers who work on them. Maxwell insists sales from inventions at each division must grow by 4% a year. Tweaks to old products don't count. There are 1,700 R&D projects going on at any given time across the company, and Maxwell can see them all, thanks to software he and his team spent three years developing. He can click on any of Parker's 142 divisions around the world and see all of its projects, laid out on a chart by their riskiness and potential to make money. High-risk, high-reward projects stay in the pipeline. But if an engineer is working on a risky invention with little upside, Maxwell's deputies will reassign the engineer to a more worthwhile project. All inventions are entered into statistical models that predict how much they will help the division grow in each of the next ten years. If the fluid systems division, for example, has several innovations coming out over the next two years but no big projects after that, Maxwell will give them a ring. Or if the water purification division predicted huge growth the last few years but hasn't delivered, its engineering boss should start searching for a new job.

What makes Maxwell unique is that he simultaneously manages to be a cheerleader for entrepreneurial wackiness and also a traditional corporate suit. "He is a very good fit for Parker Hannifin," says Aulet, the MIT professor who met Maxwell when he came to campus to participate in a weeklong startup boot camp alongside hoodie-wearing 20-year-olds. "You need someone who kind of has a dual passport, can play the old white conservative guy from the Midwest but also can walk into a startup and understand what they're doing and be ready to rock 'n' roll with them."

Maxwell's most radical idea: He wants to give employees an ownership stake in the products they invent, which

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MOTORIZED MIRACLE

Four years after he was paralyzed from the waist down in a motorcycle accident, David Carter is standing again, thanks to the Indego exoskeleton designed by Parker Hannifin that supports his weight and assists his movement. Right now he can use the device to walk at an Atlanta hospital but it won't be on sale until it gets FDA approval, which Parker expects will happen this fall.

STEPHEN WEBSTER FOR FORBES

means Parker could eventually cut multimillion-dollar checks to its most inventive engineers. For his internal entrepreneurs Maxwell wants to eliminate the company's traditional bonus, based on the return on net assets, and instead give them equity stakes of, say, 20% in their projects. Parker would own the other 80%, and if the idea proved successful and turned into a meaningful business, the company could then buy the remaining 20% and cut the "founders" massive checks. If the costs overrun, the company could put more money into the project, diluting the founders' stakes and reducing their eventual payouts.

"There is no doubt that if it's proven successful it will be carried out elsewhere," says Lustgarten, the analyst. "By doing that sort of model you also have the ability to attract entrepreneurs into your business, which you wouldn't be able to do if you wanted to bring them into a corporate structure. It has the ability to change the game."

CEO Williams says he is open to the idea, but he and Maxwell still have to hash out a key detail: how Parker would value the startup in the absence of an external liquidity event. Publicly traded Israeli exoskeleton competitor ReWalk has never reported a profit, is currently losing $22 million a year, has only $4 million in annual sales and is valued at $150 million on the open market. Forget valuing it on a price-to-earnings ratio—ReWalk doesn't make money. Its price-to-sales ratio is 38.

Even if Williams were to value the exoskeleton and its spinoffs at Parker's paltry 1.3 price-to-sales ratio, the business could be worth $650 million in 2020 (assuming Parker's growth projections are correct), which would make the founders' 20% stake worth $130 million. It's the kind of math that makes your head spin.

"What you're describing sounds good in theory, but it might be hard in practicality," says Williams, who made $6 million last year from his perch in the executive suite. "Cutting billions of dollars of checks to people would not be appropriate."

For Maxwell, the fight goes on. Standing in his lab, sparks in the air and machines humming around him, he peers through a window at a hollowed-out space with concrete floors and tubing crisscrossing the ceiling—the site of the next breakthrough idea at Parker.

The company is now turning the pumps, valves and fittings it sells into Internet-connected devices. Parker acquired a $10 million business called Micro Thermo in 2010, bringing on technology that allows Parker to outfit refrigerators in convenience stores with sensors, which stream data online to show customers how efficiently their refrigerators are running at any given time. Supermarkets pay Parker to track whether their refrigerators are wasting energy or spoiling food. Maxwell is hosting a hackathon to conjure up more Internet of Things plays and will fund the best ones from each of the company's branches with $200,000 seed investments. "We're right at the cusp now," says Maxwell, gazing at all of the projects going on around him. "I hope that I outgrow this building pretty quickly." F


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NEXT **BILLION-DOLLAR** STARTUPS

We've all read countless stories about the spectacularly successful startups that have shot to valuations exceeding a billion dollars. Labeled unicorns because they were once so rare, they now number more than 80 and have familiar names like Dropbox, Uber and Pinterest. All of which inspired us, in cooperation with TrueBridge Capital Partners, to go hunting for the next wave of startups that are flying under the radar but getting ready to pop. We surveyed venture firms for their best picks, reviewed their growth in revenue and user engagement, did some reporting and analysis and produced the following list of 25 companies. Say hello to tomorrow's unicorns.

THE ALL-SEEING EYE

A father-son duo came from out of nowhere with a more clever idea to protect networks from hackers—and now have a $1.75 billion startup with $160 million in the bank.

BY BRIAN SOLOMON

PHOTOGRAPH BY TIMOTHY ARCHIBALD FOR FORBES

First-name basis: In the office, Orion Hindawi, CTO, and his father, David, CEO, call each other by their first names.

Tanium

When Steven Sinofsky first saw Tanium software in action, he—along with the rest of a conference room full of Andreessen Horowitz partners—thought it was a trick. "It was too fast," says Sinofsky, who used to run Microsoft's Windows division. "To a person, we just assumed it was a mock-up. We asked how long it would take to build for real."

And that's when Tanium's father-and-son cofounders, who had been toiling in obscurity across the San Francisco Bay in Emeryville, Calif., delivered the reveal: Their software, as deceptively simple as a Google search box and nearly as fast, was already live and able to instantly assess and display the security status of every single Internet-connected device, thousands of them, that a California hospital system had in operation.

"I'd never seen anything like it," Sinofsky says nearly a year later. "It was a wild, surreal experience. We all knew this space—or so we thought—super-, super-well." Today Sinofsky is on Tanium's board, but back then he, along with former enterprise software veterans Marc Andreessen and Ben Horowitz, had just one question: "How the f--- did you do that?"

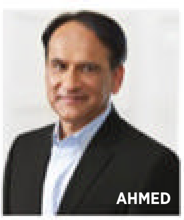
Orion Hindawi, a 35-year-old whiz born and raised in Berkeley, Calif., and his father, David, a 70-year-old immigrant from Iraq by way of Israel, have been answering questions like that since 1997. Their first startup, a device-management service called BigFix, was sold to IBM for $400 million in 2010. Their new venture, Tanium, offers a powerful and completely novel way to scan and control the security of thousands of devices at once and is in use by the likes of Visa, Amazon, Best Buy, the U.S. Department of Defense and Nasdaq. Desktops, laptops, servers, cash registers and even heart-rate monitors—each one a potential entry point for hackers—can be made accessible to network administrators in seconds through Tanium. "Most of our customers had no idea how many computers they had before we got there," Orion says. "If they can't answer that basic ques-

TOP **25**

Haven't heard of these fast-growing companies? Don't worry, you will.

Affirmed Networks

WHAT IT DOES: Builds software to run mobile networks. **FOUNDER:** Hassan Ahmed. **NOTABLE INVESTORS:** CRV, Matrix Partners, Lightspeed Venture Partners, Bessemer Venture Partners. **CAPITAL RAISED:** $163 million.


AHMED

One of the firms tapped to digitize AT&T's mobile networks, as well as those of LG Uplus, ElephantTalk and Transatel, it generated an estimated $20 million in revenue last year. Has another 40 clients using the service on a trial basis.

Avant

WHAT IT DOES: Makes personal loans. **FOUNDERS:** Al Goldstein, John Sun, Paul Zhang. **NOTABLE INVESTORS:** August Capital, Tiger Global Management, Peter Thiel. **CAPITAL RAISED:** $1.4 billion ($334 million in equity) with current valuation of $875 million.

CEO Goldstein and two former interns turned cofounders increased revenue 971% to $75 million in 2014—and hope to triple that this year. The company is nearing 200,000 customers and plans to expand further abroad in the next several months.

Beepi

WHAT IT DOES: Online used-car marketplace. **FOUNDERS:** Ale Resnik, Owen Savir. **NOTABLE INVESTORS:** Redpoint Ventures, Foundation Capital. **CAPITAL RAISED:** $79 million with valuation of $200 million.

Beepi is Resnik's fix for a used-car buying experience that once left the then MIT student with a burning Jeep Liberty he couldn't return. It jumped out to a $50 million revenue run rate for this year and is still accelerating. Operating in more than 200 locations in six states.

Blue Apron

WHAT IT DOES: Subscription meal service. **FOUNDERS:** Matt Salzberg, Matthew Wadiak, Ilia Papas. **NOTABLE INVESTORS:** Bessemer Venture Partners, First Round Capital. **CAPITAL RAISED:** $58 million with a reported $500 million valuation.

The big Blue Apron box at your door—with glossy recipe cards and carefully portioned ingredients—means dinner for the week is taken care of. Blue Apron started when a young venture investor, a cook with a catering business and a tech whiz banded together to ship fresh ingredients and recipes to people's homes at an affordable subscription price. Now they ship more than 2 million meals nationwide each month.

Cyanogen

WHAT IT DOES: Mobile operating system. **FOUNDERS:** Kirt McMaster, Steve Kondik. **NOTABLE INVESTORS:** Benchmark, Redpoint Ventures, Andreessen Horowitz, Tencent Holdings. **CAPITAL RAISED:** $110 million with a current valuation close to $1 billion.

Shoppers in China, India and Latin America will be purchasing smartphones powered by Cyanogen, a mobile operating system challenging Google's Android and Apple's iOS. With 50 million users so far, its founders say they're "putting a bullet through Google's head."

DataStax

WHAT IT DOES: Database platform. **FOUNDERS:** Jonathan Ellis, Matt Pfeil. **NOTABLE INVESTORS:** Sequoia Capital, Lightspeed Venture Partners, Kleiner Perkins Caufield & Byers, Crosslink Capital, Scale Venture Partners, Meritech Capital Partners, DFJ Growth, Next World Capital. **CAPITAL RAISED:** $190 million with valuation of over $830 million.

The provider of the Apache Cassandra database has more than 500 customers, including Safeway,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Tanium

tion, how are they supposed to answer what's running or where their users are or where their data is?"

The Hindawis know they're on to something big. Health insurer Anthem, Home Depot, JPMorgan and Sony Pictures have all been hit hard by data breaches since spring 2014. The CEO of one of the largest banks in the country told Orion in March that there are only three things that he fears could destroy his bank overnight: "Meteors, nuclear weapons and cybersecurity." While Tanium can't do much about the first two threats, it's working hard to address the third. "I want to make sure we're accelerating, because we're outrunning a really scary bear," says Orion.

Tanium's service creates for every customer an IT central nervous system that can quickly scan and report back on suspicious behavior or programs. While competitors such as Symantec and Intel's McAfee division offer similar services, they require large server deployments to reach out one by one to every computer, the equivalent of building a massive call center to collect data from hundreds of thousands of individual people. Tanium employs a new kind of peer-to-peer system, one that bears a passing resemblance to file-sharing networks such as Napster and BitTorrent. With Tanium, each computer on a network talks to the computer next to it, relaying information along a chain before sending it back to a single server in a fraction of the time the old brute-force method takes. Generating similar reports with pre-Tanium software could take hours or days, at which point the information might be useless.

In his demonstrations Orion takes special pleasure in querying the same health care network he showed Andreessen to identify four computers running the file-hosting program Dropbox, which he says is a major no-no when dealing with health records. Through Tanium, a system administrator can terminate such programs with a few keystrokes.

Tanium was one of the first calls Brad Maiorino made when he joined Target as its first chief information security officer following a 2013 data breach that compromised up to 40 million credit and debit card accounts. "One of the key areas we focused on was enhancing our ability to detect and quickly respond to security incidents," Maiorino says. "This requires real-time insight into every end point across the enterprise."

The company declines to disclose annual revenue but says bookings, or revenue to be recognized over

Target and Netflix, for which DataStax helps handle 10 million transactions a second. DataStax works with 30% of the 100 biggest companies in the world and has secured partnerships with Accenture, Google and Microsoft. "Cassandra is reinventing the database layer," says CEO Billy Bosworth. "We have the feeling that we've caught a shooting star." DataStax has a ballpark revenue run rate of $50 million to $100 million.

Deliveroo

WHAT IT DOES: Restaurant food delivery. **FOUNDERS:** Greg Orlowski, Will Shu. **NOTABLE INVESTORS:** Index Ventures, Hoxton Ventures, Accel Partners. **CAPITAL RAISED:** $30 million with a reported valuation of more than $100 million.

When Shu moved to London from New York, he was dismayed by the lack of food-delivery options. Now his end-to-end delivery service has nearly 100,000 customers, and revenue has grown tenfold in the past year. He sometimes makes deliveries himself on an electric bike.

Docker

WHAT IT DOES: An open platform to build and run apps. **FOUNDER:** Solomon Hykes. **NOTABLE INVESTORS:** Y Combinator, AME Cloud Ventures, Lowercase Capital, Benchmark, Greylock Partners, Insight Venture Partners, Trinity Ventures, Sequoia Capital. **CAPITAL RAISED:** $55 million to date with a reported $400 million valuation.


HYKES

With a way to make servers wildly more efficient, Docker has taken off in the two years since founder Hykes opened up his platform for anyone to build and deploy applications using "containers" of code. Less than $10 million in revenue but more than 300 million downloads.

DoorDash

WHAT IT DOES: Restaurant food delivery. **FOUNDERS:** Andy Fang, Stanley Tang, Tony Xu, Evan Charles. **NOTABLE INVESTORS:** Pejman Mar Ventures, CRV, Khosla Ventures, Kleiner Perkins Caufield & Byers, Sequoia Capital, Y Combinator. **CAPITAL RAISED:** $60 million with a reported valuation of nearly $600 million.

Founded by four Stanford students, DoorDash spent 18 months developing its delivery service in Silicon Valley before entering the crowded San Francisco market. You can now use it to order food in Boston, Brooklyn, Chicago, Los Angeles and Washington, D.C.

Grand Rounds

WHAT IT DOES: Connects patients with medical specialists. **FOUNDERS:** Owen Tripp, Rusty Hofmann. **NOTABLE INVESTORS:** Greylock Partners, Venrock, Harrison Metal. **CAPITAL RAISED:** $51 million.

For employees of clients like Costco, Target, Comcast and Jamba Juice, Grand Rounds provides access to a 30,000-doctor recommendation network. Wrote more than $40 million in contracts last year and has gone from a shared workspace to a 33,000-square-foot office in San Francisco in less than two years.

Kreditech

WHAT IT DOES: Digital banking for the "unbanked." **FOUNDERS:** Sebastian Diemer, Alexander Graubner-Müller. **NOTABLE INVESTORS:** HPE Growth Capital, Blumberg Capital, Point Nine Capital, Kreos Capital, Global Founders Capital. **CAPITAL RAISED:** $269.5 million with a current valuation of $159 million.

Loans money in seconds based on analysis of borrower's online footprint. Already has 2 million customers.

Lithium Technologies

WHAT IT DOES: Social customer management software. **FOUNDERS:** Lyle Fong, Kirk Yokomizo, Dennis Fong, Nader Alizadeh. **NOTABLE INVESTORS:** Emergence Capital, Shasta Ventures, Benchmark Capital, New Enterprise Associates, DAG Ventures, Tenaya. **CAPITAL RAISED:** $243.7 million.

Has helped more than 400 brands such as Best Buy, AT&T and Sony build relationships with their customers through social media. With more than 300 employees, Lithium is on track to exceed $100 million in revenue this year.


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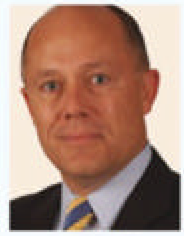

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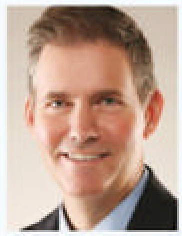

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Tanium

multiple contract years, have grown from $2 million in 2012 to $24 million in 2013 to $74 million last year and a projected $200 million-plus this year. Its clients now include half of the 100 largest U.S. companies by revenue, with five of the top ten banks and four of the top ten retailers. Profitable and growing without help, the Hindawis were initially uninterested in taking outside capital—until connections that Andreessen Horowitz provided for free netted Tanium $10 million in bookings in only three months. So the Hindawis went exclusively with Andreessen, accepting $90 million last August at a valuation of $900 million and another $52 million in March at a $1.75 billion valuation. The combined $142 million is the largest bet Andreessen has made on a single company. David and Orion still own more than 60% of the firm and have yet to touch any of the capital they've raised.

The Hindawis' road to Silicon Valley elite status stretches all the way to Iraq. David Hindawi emigrated from Baghdad to Israel with his parents at the age of 6, and after college he helped plan bombing runs for the Israeli Air Force during the 1967 Six-Day War. After that he decamped to UC, Berkeley, where he earned a Ph.D. in operations research, a data-intensive discipline for solving complex problems. In 1986 he founded a telecom company, Software Ventures, that made early modem software. In 1997 he got into the security business with a startup, BigFix, that sold patching software. There he recruited the smartest developers he could find, including his then 17-year-old son, Orion, who was already taking college courses as a high school sophomore.

By the time Orion enrolled full-time at Berkeley in 1997 he'd completed 110 of the 120 mandated credits. Naturally, he found college dull compared with the challenges of startup life. He wound up ditching class to meet with his father and BigFix's development team—and to his mother's chagrin he still hasn't earned his degree, missing only a mandatory econometrics course and two physical education electives.

IBM bought BigFix in 2010, netting father and son a handsome payday. They had turned over management of the company three years earlier, exasperated by what they considered the meddling of its venture investors—and eager to start something fresh. In 2007, ten years after David recruited his son, the tables turned: It was Orion who pitched the idea for Tanium. Today David is CEO, but they've maintained equal ownership and get

Mixpanel

WHAT IT DOES: Analytics software. **FOUNDERS:** Suhail Doshi, Tim Trefren. **NOTABLE INVESTORS:** Y Combinator, Sequoia Capital, Andreessen Horowitz, Keith Rabois, Max Levchin. **CAPITAL RAISED:** $77 million with a valuation of $865 million.

More than 3,000 clients are using Mixpanel's analytics platform to study their customers' behavior, especially on mobile screens. The service analyzes more than 30 billion actions a month, generating annual revenue in the tens of millions.

Orchard Platform

WHAT IT DOES: Analytics platform for peer-to-peer lending. **FOUNDERS:** Matt Burton, Jonathan Kelfer, Angela Ceresnie, David Snitkof. **NOTABLE INVESTORS:** Spark Capital, Canaan Partners, QED Investors. **CAPITAL RAISED:** $14.7 million with a valuation of $50 million.

Orchard helps many leading institutional investors tap the growing field of peer-to-peer lending, helping them assess lending risks on platforms like Lending Club and Prosper that are finding new ways to provide credit. Between 2013 and 2014 Orchard generated revenue in the range of $500,000 to $1 million.

Raise

WHAT IT DOES: Marketplace for unused gift cards. **FOUNDERS:** George Bousis, Bradley Wasz. **NOTABLE INVESTORS:** Bessemer Venture Partners, New Enterprise Associates, Accel Partners. **CAPITAL RAISED:** $87 million with an estimated $500 million valuation.

Founders Bousis and Wasz started working on a savings website in 2011; in 2013, they pivoted, forming Raise to focus on what they say is the $400 billion U.S. gift card industry, where 20% of card dollars go unspent. Since its launch, Raise has grown to more than 160 employees and scored a $62 million investment round in January. It has more than a million customers who buy and sell gift cards through their smartphones, with Raise taking a 15% cut from the seller. It topped $100 million in revenue just 14 months after it was founded in February 2013.

Redfin

WHAT IT DOES: Online real estate marketplace. **FOUNDER:** David Eraker. **NOTABLE INVESTORS:** Madrona Ventures, Vulcan Capital, Draper Fisher Jurvetson, Greylock Partners, Globespan Capital Partners, Tiger Global. **CAPITAL RAISED:** $166 million with an estimated $500 million valuation.

Redfin says last year's revenue was well above $100 million. To date it has closed more than $20 billion in home sales.

SimpliVity

WHAT IT DOES: Sells data-center hardware, aggregating components normally sold separately. **FOUNDER:** Doron Kempel. **NOTABLE INVESTORS:** Accel Partners, CRV, Kleiner Perkins Caufield & Byers, Meritech Capital Partners, Draper Fisher Jurvetson. **CAPITAL RAISED:** $276 million with a valuation of more than $1 billion.

This technology lets customers reduce their server footprint. In 2014 SimpliVity had more than 300 customers, and it finished the year with a run rate of more than $100 million.

Skyhigh Networks

WHAT IT DOES: Cloud security. **FOUNDERS:** Rajiv Gupta, Sekhar Sarukkai, Kaushik Narayan. **NOTABLE INVESTORS:** Sequoia Capital, Greylock Partners, Salesforce Ventures. **CAPITAL RAISED:** $66.5 million.

Handling cloud security duties for clients like Cisco Systems, Hewlett-Packard and DirecTV generated an estimated $25 million in 2014 revenue for Skyhigh. But the company is looking for more capital to grow. CEO Gupta, with two successful startup exits and 45 patents to his name, plans to add another 150 employees this year.

Social Finance (a.k.a. SoFi)

WHAT IT DOES: Student loan refinancing and mortgages. **FOUNDERS:** Mike Cagney, Daniel Macklin, James Finnigan, Ian Brady. **NOTABLE INVESTORS:** Baseline Ventures, DCM, Institutional Venture Partners. **CAPITAL RAISED:** $414 million with a current valuation of $1.3 billion.

On its way to an IPO later this year, SoFi is on track to quadruple last year's $1.3 billion in loans handed out, which generated some $40 million in estimated revenue. CEO Cagney expects to hire another 150 employees this year.

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Tanium

along frighteningly well, calling each other by first name to avoid irking others. David does admit that Orion, whose title is CTO, can be "an impatient and mercurial young man." The younger Hindawi takes the appraisal in stride. "I never said I was the most patient person in the world," he says. On weekends they take long walks to talk strategy. "Some people have baseball," says Orion. "We have enterprise software."

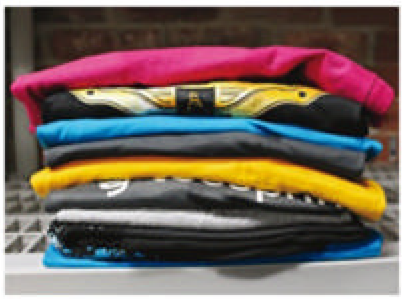
The Hindawis started Tanium with 12 engineers from BigFix and spent the first five years building and testing their product away from prying eyes. Only in 2012 did they enter a partnership with McAfee to start selling it. Two years later the Hindawis split with McAfee, taking with them the company's head of American sales to build their own sales force. Head count at Tanium has more than doubled every year, reaching 45 at the start of 2014, and is projected to hit 370 by December.

Many of the new people will be put to work building a broader set of services intended to extend the company's reach. Tanium has been used mostly for "good hygiene," says Orion, for issuing patches and keeping software up to date. Its average current contract is worth $1 million over the first three years. But Tanium needs to offer more to become a must-have weapon in companies' cyberarsenals. "The massive threat environment facing governments and companies has reached critical level," says Daniel Ives, a senior analyst at FBR Markets. "It's a once-in-a-decade market opportunity." Spending on cybersecurity is $20 billion today and growing 30% a year in an overall IT industry growing only 3% a year.

That's where Tanium's $160 million in parked cash comes in. The Hindawis need developers to build those new security subscription services and salespeople to sell them. One newly released tool integrates and automates threat intelligence data to help companies respond immediately to signs of breaches. IT managers can quarantine a machine, alert users, deploy a patch or delete files, thwarting hackers only minutes after a network has been compromised.

Another focus for 2015 is signing up big customers in Australia, Great Britain and Japan. Just three months of selling in Tokyo, for example, has put another $20 million worth of business in the pipeline. That early success has the Hindawis redoubling their growth efforts.

"Those companies are just as scared as companies here," says Orion. "But they have even less access to great technology. This is as 'greenfield' as it will ever get." F



Teespring

WHAT IT DOES: E-commerce platform. **FOUNDERS:** Walker Williams, Evan Stites-Clayton. **NOTABLE INVESTORS:** Y Combinator, Andreessen Horowitz, Khosla Ventures. **CAPITAL RAISED:** $55 million.

Started in 2011 by two Brown University graduates, the Teespring platform helps entrepreneurs create and sell T-shirts and, recently, other products like hoodies. Sold 6 million shirts last year, helping hundreds of sellers on the platform earn more than six figures. FORBES estimates the company's revenue could top $200 million this year. It was started by Williams and Stites-Clayton because they wanted to sell T-shirts to support a local bar that was in danger of closing. A new production facility in Kentucky will be able to produce 100,000 units a day, four times the company's recent capacity. Up next, says CEO Williams, are items like hats, polo shirts, posters and laptop stickers, all of which could get their own production facilities once they prove their market. "By this time next year," Walker says, "we should be known more as an entrepreneurial platform than a T-shirt site."

Thumbtack

WHAT IT DOES: Service-listings marketplace. **FOUNDERS:** Marco Zappacosta, Jonathan Swanson, Sander Daniels. **NOTABLE INVESTORS:** Google Capital, Sequoia Capital, Tiger Global. **CAPITAL RAISED:** $150 million invested.

Need a painter? What about a deejay? Started six years ago in the house of CEO Zappacosta's older brother, Thumbtack connects customers to more than 150,000 service professionals across 700 categories, taking a cut whenever the pros quote a price. More than 5 million projects per year are completed through the site, generating an estimated $2 billion in business. Zappacosta tested the service by selling Italian cooking lessons.

Viptela

WHAT IT DOES: Network architecture. **FOUNDERS:** Amir Khan, Khalid Raza. **NOTABLE INVESTOR:** Sequoia Capital. **CAPITAL RAISED:** $33.5 million with a valuation of more than $500 million.

Claims to be on track to produce $75 million to $100 million in revenue next year. More than 10 very large corporations have adopted Viptela software for managing and securing multiple networks. Three of the top ten global telecom companies have adopted a Viptela service model.

Wish

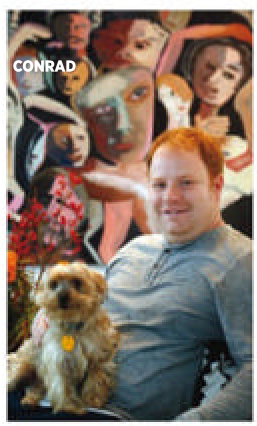
WHAT IT DOES: Mobile shopping platform. **FOUNDERS:** Danny Zhang, Peter Szulczewski. **NOTABLE INVESTORS:** GGV, Founders Fund, Formation 8, Felicis Ventures. **CAPITAL RAISED:** $78.7 million.

CEO Szulczewski, a former Google software engineer, saw his registered user base of shoppers for cheap goods swell past 100 million in March (up from 30 million a year ago). Employee numbers have also been rising, and the 450-person operation could break 1,000 by year's end. The platform is used by eBay sellers, Amazon Third Party Program and Alibaba.

Zenefits

WHAT IT DOES: Sells health insurance and offers h.r. software to small businesses. **FOUNDERS:** Parker Conrad, Laks Srini. **NOTABLE INVESTORS:** Y Combinator, Venrock, Andreessen Horowitz, General Catalyst Partners, Institutional Venture Partners. **CAPITAL RAISED:** $84 million with a current valuation of $500 million.

Zenefits zoomed off the line in 2013, signing up more than 10,000 companies in 47 states in its first 18 months of operation. Declared illegal in Utah last year for handing out free software in violation of the state's rebates and inducement laws (Zenefits is fighting back), the company found time to hire a new COO in Yammer founder and former PayPal exec David Sacks. CEO Conrad says he can hit a revenue run rate of $100 million by year's end.



CONRAD

KARL MONDON / BAY AREA NEWS GROUP / NEWSCOM (RIGHT)

EVEN AS RECORD COMPANIES RENEW THEIR GRIP ON THE MUSIC INDUSTRY, A HANDFUL OF ENTREPRENEURIAL ARTISTS ARE CARVING OUT PROFITABLE NEW NICHES—WITHOUT MAJOR LABELS.

MUSIC MAVERICK

Amanda Palmer

THE CROWDFUNDING QUEEN

Palmer achieved a measure of mainstream success as part of the punk cabaret act Dresden Dolls a decade ago, but leaving the major label world became her goal shortly after she entered it. "I, like many artists, fundamentally detest being told what to do by others," she says. "That's why most of us became musicians to begin with." After a messy split with Warner's Roadrunner Records, she wandered the digital wilderness and stumbled upon Kickstarter, where she raised a then-record $1.2 million to make an album. Now she's shifting her focus to crowdfunding site Patreon, where 4,000 fans have pledged to pay her a combined total of $30,000 "per thing"—be it a new song, video or piece of long-form writing. Says Palmer: "The dirty secret of my Kickstarter is that it was actually a loss leader, leading to Patreon."

CREDIT TK

PHOTOGRAPH BY JAMEL TOPPIN FOR FORBES
MAKEUP: SUZANA HALLILI FOR OCC MAKEUP

REVENGE OF THE RECORD LABELS

While Jay Z's streaming service grabs headlines, music's majors are quietly hijacking the multibillion-dollar digital revolution.

BY ZACK O'MALLEY GREENBURG AND NICK MESSITTE

LAST OCTOBER SOUNDCLOUD—A FREE MUSIC-STREAMING SERVICE WITH a massive 175 million monthly users—appeared to be running out of cash. News broke that the Berlin-based company had lost $29.2 million in 2013, and when a rumored $2 billion buyout bid by Twitter fell through, it looked like music's hottest startup might be in danger of going bust.

Then something strange happened: Warner Music Group became the first major record label to strike a licensing deal with SoundCloud, instantly legalizing scores of songs posted to the service. More surprisingly, Warner acquired up to 5% of the company, adding to funding that's passed $120 million; the company is now valued at over $1.2 billion.

Yet despite the credibility they bestowed on each other, Warner and SoundCloud have largely eschewed talking about the partnership—neither side would comment to FORBES—and have zealously guarded the terms. Why? A source with knowledge of the agreement says

the record company acquired its SoundCloud stake at a discount of about 50% from what other investors paid. And such details illustrate a quiet revolution in digitization of the music industry that all sides seem to prefer go unnoticed.

Left for dead by most investors and pundits, the surviving Big Three labels—Warner, Universal and Sony—have quietly muscled out stakes of the hottest digital entertainment startups, including 10% to 20%, collectively, of the established streaming services, such as Spotify and Rdio. Terms are similarly stark for younger startups: The labels take stakes for free or on the cheap, and then often give themselves the right to buy larger chunks at deep discounts to market later on. It's not just streaming: The labels have gobbled up pieces of startups ranging from choose-your-own-adventure music video purveyor Interlude to song-recognition giant Shazam—valued at $1 billion in its latest round—which counts Carlos Slim, the second-richest man in the world, among its investors.

And what have the labels been giving the startups, aside from legitimacy, to secure these sweetheart deals? All-encompassing access to the artists and their songs—a neat little trick. Sure, the artists derive some minimal amount of royalties from these new channels, but they aren't getting any of the ownership. "That's the story of the music business," says John Oates, one-half of Rock and Roll Hall of Fame duo Hall & Oates, who went independent almost 20 years ago amid frustration over their financial arrangements with labels *(see p. 110)*. "It goes back to the earliest days—take it back to, 'Give him a bottle of wine and take all his publishing for the rest of his life.'"

"GIVE HIM A BOTTLE OF WINE AND TAKE ALL HIS PUBLISHING."

The artists are starting to fight back—and not just by opting out of the system. Earlier this year Jay Z purchased Swedish high-resolution-streaming services WiMP and Tidal for $56 million, merging them into a single service to compete directly with Spotify. At the official launch 16 of music's biggest acts were introduced as the new "owners" of Tidal, including Beyoncé, Calvin Harris, Kanye West, Alicia Keys, Jason Aldean and Daft Punk. Each was reportedly offered a 3% stake.

Representatives from all three major labels—as well as Beats, Spotify and Rdio—declined or did not respond to requests for a comment on whether or not the majors demanded free or cheap equity in streaming companies as part of the price of doing business. But in industry circles, the practice is an open secret.

FORBES estimates that the three labels have amassed positions in digital music startups valued at almost $3 billion—or around 20% of the $15 billion or so the labels are collectively worth. The percentage will shoot even higher if and when Spotify goes public. And some bets have already paid off: Universal Music Group took an early position in Beats by Dr. Dre and owned 13% when Apple bought the company for $3 billion last year, resulting in a $404 million score. Artists + leverage = digital windfall. That's the kind of math, applied across all their revenue models, that the labels hope puts them back atop the musical food chain.

TO UNDERSTAND THE URGENCY the labels feel, it's helpful to walk through what they've endured. Total U.S. album sales peaked at 785 million in 2000—the year after a pair of teenagers named Shawn Fanning and Sean Parker created Napster, which allowed anyone with a computer and a reasonably fast Web connection to trade music.

By 2008 annual album sales had plummeted 45%. Between then and now, even as the labels reined in illegal downloading, sales dropped another 40% to 257 million. That means, at $15 per album, the industry is currently taking in $7.9 billion less in annual retail sales than it was a decade and a half ago. Initially, the labels' response was to fight piracy in court and to fold into one another. There were six majors in 1999; now there are three.

Apple provided a respite. Selling billions of 99-cent songs on iTunes gave labels a few years to catch their breath as the streaming revolution approached. Now, as the MP3 heads the way of the eight-track tape, it seems the labels have learned from their mistakes. Led by Warner's new billionaire owner, Len Blavatnik, Universal CEO Lucian Grainge and Sony's music chief, industry veteran Doug Morris, the majors have figured out that it's smarter to bully their way into companies seeking to eat their lunch rather than perpetually try to sue them, Whac-A-Mole-style, out of existence.

So far two dominant streaming models have emerged: Internet radio companies like Pandora that allow subscribers to passively listen to music that's customized for their tastes and interactive ones like Spotify that allow users to pick songs.

The former can operate under a government-mandated license that dictates how much they have to pay. By contrast, Spotify and others must strike deals with labels and publishers in order to license

MICHAEL GRECCO FOR FORBES

MUSIC MAVERICK

Lindsey Stirling

THE YOUTUBE SENSATION

The 28-year-old dancing violinist got her first chance at stardom on *America's Got Talent* in 2010 but was booted in the late rounds—judge Sharon Osbourne told Stirling her act wasn't even good enough to fill a Vegas theater. Rather than give up, she pressed on and found a more receptive audience on YouTube. "I didn't have to wait for someone to invest in me," she says. "The tools were there for me to invest in myself." She played weddings and bar mitzvahs, sometimes sleeping in airports and rental cars to save cash, and poured every remaining penny into her videos. Today she's got 6.4 million subscribers; her latest album, *Shatter Me*, reached No. 2 on the *Billboard* charts. And forget Vegas: By the end of July Stirling will have played 69 shows in 22 countries this year alone, grossing more than $50,000 per stop.

MUSIC MAVERICK

John Oates

THE PIONEER

As one-half of Hall & Oates, the bestselling duo of all time, the singer-songwriter went independent two decades ago and never looked back. "We said, 'You know what, let's control everything we do and let's be satisfied with selling our music to a smaller group of dedicated fans,'" says Oates. The pair hasn't released a studio album since 2006, which leaves plenty of time for solo projects: Oates put out three albums in the past four years and launched live CD/DVD *Another Good Road* in January. The sales numbers may not be as gaudy as they were in Hall & Oates' heyday, but they still play 30 to 40 shows together annually—and they don't have to cut a label in on their per-city gross of $200,000.

JAMEL TOPPIN FOR FORBES

music for legal use in the U.S.

One insider says YouTube alone paid the majors more than $1 billion in advances over the past two years. Spotify pays out about 70% of its revenue—at a rate of 0.7 cents a spin—to labels and publishers, who then pass along a small fraction to their artists and songwriters.

These arrangements offer labels another way to leverage their artists to make money from digital streaming: arbitrage. The formula for how much Pandora, YouTube and Spotify pay the labels isn't related to the formula that the labels use to pay the artists whose songs are played. The latter is determined by a combination of individual contracts and a structure so byzantine that it goes by a moniker only a secretive hedge fund quant could love: the "black box."

So how do the labels make money from the spread? Let's understand the concept of "breakage." The labels generally ask for digital partners to front an advance, not unlike how they worked with the record clubs of yesteryear. When a contract expires, there's often a difference between the royalties earned and the initial advance. The labels generally keep that difference. When the labels renegotiate, it's with entities in which they hold significant stakes, ensuring the same rules apply all over again.

The black box has many other ways to squeeze money from the artist. For example, "Drunk in Love" is undoubtedly a hit single performed by Beyoncé and Jay Z—but it

exists under many different names ("Drunk in Love" by Various Artists, by Beyoncé feat. Jay Z, etc.). In cases of mislabeling, royalties don't typically go to music's royal couple but rather a pool of unclaimed cash eventually doled out to the labels at a rate commensurate with their market share. And while U.S. laws exempt broadcasters from paying out royalties on the recording side, foreign laws often do not. When an American act scores a hit in the U.K., it's not clear how often the U.K. label pays through to the U.S. label and performer. FORBES estimates that labels are collecting $300 million worth of putatively "unattributable" money each year.

"By not having great data and not having a worldwide database," says John Simson, who used to run SoundExchange, a nonprofit trade association responsible for collecting artist and label royalties on digital transmissions, "it just makes it easier for money to go to the black box."

Labels have also increasingly used their leverage to get a piece of concert revenue. This is relatively new: Historically, touring was often a loss leader to boost album sales.

"IF EVERYONE SIGNED UP, THE POT WOULD BE MANY TIMES AS BIG."

Now that it's reversed—most of the profit in the music industry comes from live shows—the majors take a piece of the profit in exchange for their promotion and marketing for the acts overall. These so-called 360 deals date back to the days of the Monkees and became prevalent when Live Nation started shelling out nine-figure advances to the likes of Jay Z and Madonna (both now stakeholders in Tidal) for such arrangements about a decade ago.

These days 360 deals are mostly reserved for young acts with little leverage; under such an agreement they typically give up 10% to 20% of what they net on shows to the label. Of course, these sorts of heavy-handed tactics have existed since the early days of the phonograph. Thomas Edison himself founded Edison Records—and refused to even print artists' names on his products, let alone pay transparent rates.

The difference is that artists now have choices. Most of them rail about the system—and then buy in anyway. But some put their money where their mouth is and go their own way. Taylor Swift owns a piece of her label, Big Machine Records, and she pulled herself off Spotify after a reported dispute over her fees (months later she agreed to put her music on Jay Z's Tidal). Hanson puts out its own albums, cuts it own deals and books its own shows. "We have a really good 360 deal," says Isaac Hanson, one of the three famous brothers in the group, "with ourselves."

Alternative rocker Amanda Palmer (*see p. 106*) took to crowdfunding to finance her last studio album—she raised a record-setting $1.2 million on Kickstarter in 2012. "I'll probably make enough money on Spotify to buy me a sandwich," she says. "[But] I don't think you can put this genie back in this particular bottle. I think you're better off trying to cope with the reality instead of pretending that the reality doesn't exist."

EVEN BY COMING UP WITH new takes on old tricks and accumulating pieces of popular streaming services, the majors still have a rough road ahead: Universal and Warner recently reported quarterly revenues that were flat or down on a year-over-year, constant-currency basis. Sony Music's revenues were up 13% thanks to releases by Garth Brooks, One Direction and Pink Floyd—and the favorable depreciation of the yen against the dollar. In some cases their startup stakes are held by the label's parent companies, so positive results wouldn't necessarily show up on the same balance sheet—but for the most part streaming services aren't yet in the black anyway.

That may change as usage scales up. According to MusicWatch's Russ Crupnick, in 2013 only 45% of the 190 million Internet users in the U.S. bought music in any form, spending an average $55.45 per year. A full year of premium service on Spotify or Rdio (or Tidal) costs $120.

"It's a mathematical case," says Robb McDaniels, founder and former CEO of INgrooves, which handles digital distribution for Universal Music Group (and is now partly owned by it). "If everyone signed up, the pot would be many times as big. So that's actually good for artists. The key is, we have to get the average music consumer to sign up instead of just the early adopters."

Spotify is making steady progress—as of January 2015 it had 60 million active users, 15 million of whom were paying for the premium version; both these numbers are up about 150% from March 2013. And the company doesn't need to be profitable to go public: In the event that it does, the labels will likely share a windfall in excess of $1 billion. The per-spin payouts may continue to grow, but there will be no pro rata share of an IPO jackpot going back to the artists and songwriters who made the music responsible for the company's rise.

Though, tellingly, none of the majors was willing to comment for this story, their executives have been transparent enough about their intentions. In a memo laying out goals for his company in 2015, Universal Chief Grainge expressed a desire for the company to "be a formative player in shaping and developing the music platforms of tomorrow." By looking forward, while squeezing the models of the past, the record label seems to be on its way to avoiding extinction.

Switzerland Declares War on the Apple Watch

How TAG Heuer, Breitling and other luxury brands are changing the face of the smartwatch industry.

BY VALERIE JACK

In 1982, after taking a licking from Japanese competitors that had championed quartz batteries, the Swiss watch industry was facing an existential crisis. But rather than seeing the mechanical movement as a weakness, Jean-Claude Biver, who had recently purchased the defunct Blancpain brand, boldly declared that this artful anachronism represented the industry's future. "Since 1735 there has never been a quartz Blancpain watch," Biver's new slogan declared. "And there never will be." A decade later he backed up his words with results and sold Blancpain to the Swatch Group for $43 million.

Today the Swiss watch industry is again robust—in 2013 there were more than $20 billion in exports—but the advent of the smartwatch and the release of the Apple Watch have pessimists once again wondering if time is running out on tradition.

So this March at Baselworld (the watch industry's annual Super Bowl) the 65-year-old Biver—now president of the LVMH Group's watch division, which includes TAG Heuer and Hublot—made another bold statement: "We cannot ignore the trend of the smartwatch." But this was no capitulation; rather, it was a rallying cry for the Swiss watch industry's counteroffensive against the smartwatch's incursion into its territory.

The best way to combat that, Biver argued, was to be smarter. On the opening day of Baselworld he launched the first salvo with a press conference announcing a groundbreaking new partnership between TAG Heuer, Google and Intel. The result will be a Swiss version of the smartwatch, an Android Wear timepiece powered by Intel technology. Although more information on what the watch will actually look like and what its functions may be (and what, of course, it will cost) won't be revealed until October, Biver believes the relationship has already been productive. "We enjoyed working with both Intel

About face: Bulgari's Diagono Magnesium concept watch and Frédérique Constant's Horological Smartwatch feature digital functionality beneath classic analog dials.

and Google and could also learn from their culture as much as they could learn from our culture," he tells FORBES, "as they are more technology-oriented. We are, of course, much more high-end or luxury-orientated."

Interestingly, it was Guy Sémon, TAG Heuer's general manager and director of R&D, who initiated the brand's early adoption of wearable technology. While Swiss watchmakers are often perceived to be staid guardians of the industry's centuries-old traditions, Biver credits Sémon for pushing TAG "to enter this new technology—not with our traditional knowledge but through the best possible partnership with the giants of Silicon Valley."

Talking with hands: Breitling's B55 Connected shares data with a smartphone.

And TAG Heuer is not alone in this mission. At Baselworld, Breitling presented a concept piece that puts the smartphone in service of its B55 Connected watch; while the two tools are complementary, each half of the pair performs its intended task. The result is a COSC-certified chronometer pilot's watch with features—including time setting, time-zone adjustment and alarm setting—that are accessible via the phone. Similarly, the B55 Connected can upload measurements from the chronograph (such as readings from the electronic tachometer) to the phone for simplified storage and data transfer.

For Breitling's CEO, Jean-Paul Girardin, the phone was a natural boon to improving functionality. The brand will launch a model based on the B55 Connected concept at the end of the year, but Girardin notes that the "next steps will be dictated by the actual needs of our users and the attractiveness of new technologies. We do not aim to produce connected instruments just for the sake of following a trend."

Two other brands—Frédérique Constant and Alpina—announced the Swiss Horological Smartwatch, which links Switzerland to Silicon Valley. These timepieces track motion activity and sleep and even know which time zone the wearer is in—but the dials are comfortingly analog, not digital.

Meanwhile, Jean-Christophe Babin, CEO of Bulgari, says his brand's new concept piece is "not to be confused with a smartwatch." The Diagono Magnesium is "first and foremost a manufactured mechanical luxury Swiss watch"—it just happens to contain an NFC microchip that can connect with a smartphone to lock or unlock an ultrasecure cloud app. Bulgari developed what it cheekily describes as "an intelligent watch" with Swiss information-security firm WISeKey, so the wearer of the Diagono Magnesium can access and protect personal information, all via a purely mechanical watch that acts as an encrypted key to data storage.

Having learned the lessons of the Great Quartz Crisis, these Swiss brands have carefully considered how wearable technology can be made to bolster their mechanical know-how rather than to simply create Apple-flavored smartwatches. Some change is inevitable, particularly as younger customers gain buying power—they're getting used to the idea of a watch featuring some sort of connectivity—but Biver insists that TAG Heuer will never give up its DNA as a luxury brand. Indeed, just as in 1982, the industry's éminence grise still views the mechanical watch as the future—and for good reason. "Because smartwatches are somehow due to become obsolete—contrary to the traditional mechanical watch of our ranges, which are 'eternal,'" Biver says with confidence. "Yes, in 100 or in 1,000 years a traditional mechanical watch will still be repairable and will still work!" *

FINAL THOUGHT

* *"The days of the digitals are numbered. The metaphor is built into them like a self-destruct mechanism."* —**TOM STOPPARD**

TRENDING

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PLACE
CROATIA
Thanks to *Game of Thrones,* the country has become a kingdom of tourism, with vacationers "set-jetting" to glamorous locations from the series.

COMPANY
BENTLEY
The venerable British automaker debuted its new "bad boy" in March: the EXP 10 Speed 6, a two-seat concept coupe that hot-wires a luxury vehicle and a muscle car.

IDEA
DELUXE COLLEGE TOURS
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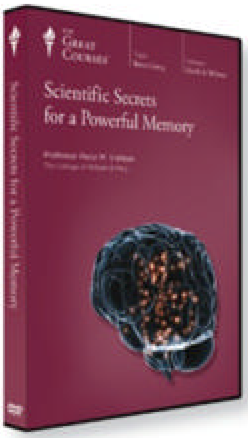

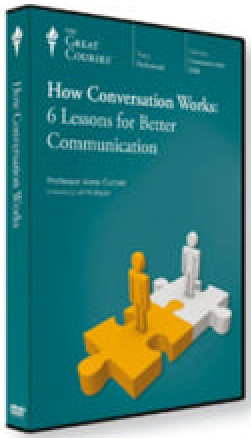

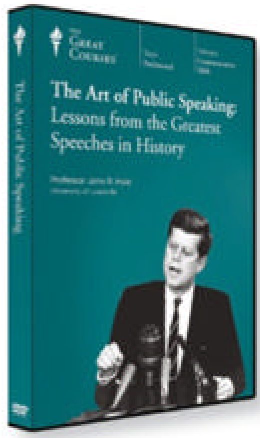

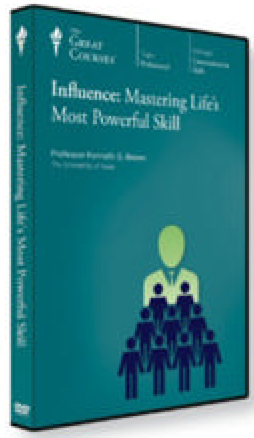

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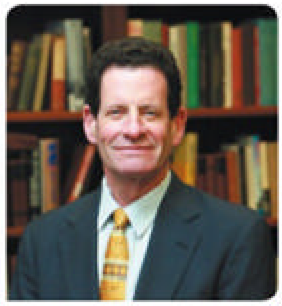

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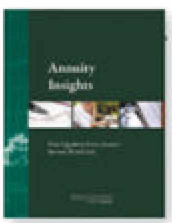

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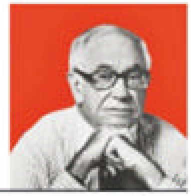
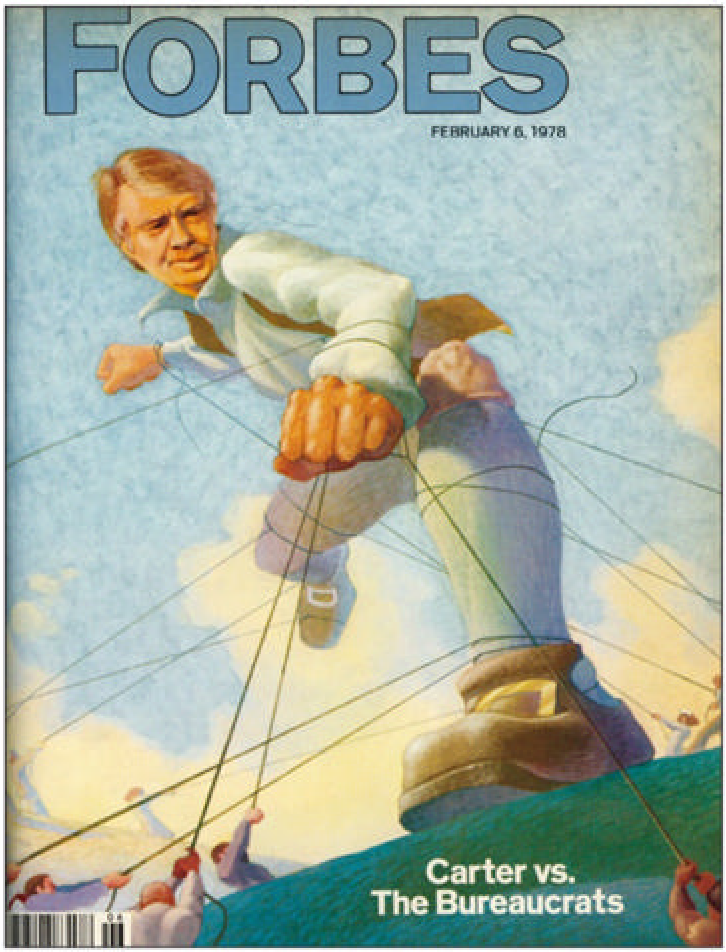
—MALCOLM FORBES





"It can take years to fire a federal employee, and the goof-offs among them get the same annual 'merit' raises as the hard workers. Like several recent Presidents, Jimmy Carter wants to change some of this. Over the past year, a 100-person task force has developed recommendations for Carter. As the details of the package quietly emerge, the outlook for real change is surprisingly good."

—FROM THE FEB. 6, 1978 ISSUE OF FORBES

OTHER THOUGHTS FROM THAT ISSUE:

E-Z HIGHER *"Smoking marijuana is illegal. Catering to the needs of the U.S.' estimated 15 million regular pot smokers, however, can be perfectly legal. For Burton Rubin and Robert Stiller, helping others to turn on neatly has become a highly lucrative enterprise. They peddle E-Z Wider cigarette-wrapping papers. Says Stiller: 'No question about it, the growth is from the marijuana market.'"*

CARS FOR COMMIES *"East Germany has worked out a barter deal with its western neighbor for 10,000 Volkswagen 'Golf' automobiles (sold in the U.S. as the Rabbit). Payment will be $38 million worth of plastics, electronic gear and other items, making each car worth about $3,800."*

ON BUREAUCRACY

"A memorandum is written not to inform the reader but to protect the writer."
—DEAN ACHESON

"There's nothing which cannot be made a mess of again by officials."
—KONRAD ADENAUER

"Moreover you shall select from all the people able men ... and place such over them to be rulers of thousands, rulers of hundreds, rulers of fifties and rulers of tens."
—EXODUS 18:21

"Remove the document, and you remove the man."
—MIKHAIL BULGAKOV

"The only thing that saves us from bureaucracy is its inefficiency. An efficient bureaucracy is the greatest threat to freedom."
—EUGENE MCCARTHY

"The working of great institutions is mainly the result of a vast mass of routine, petty malice, self-interest, carelessness and sheer mistake."
—GEORGE SANTAYANA

"A committee should consist of three men, two of whom are absent."
—HERBERT BEERBOHM TREE

"The atmosphere of officialdom would kill anything that breathes the air of human endeavor."
—JOSEPH CONRAD

"Bureaucracy gives birth to itself and then expects maternity benefits."
—DALE DAUTEN

"Catch-22 did not exist ... but it made no difference. What did matter was that everyone thought it existed, and that was much worse."
—JOSEPH HELLER

SOURCES: THE CRIME OF GALILEO, BY GEORGE SANTAYANA; THE TIMES BOOK OF QUOTATIONS; GOODREADS.COM; CATCH-22, BY JOSEPH HELLER.

At one point, 40 percent of streetlights in Detroit didn't work. This made life even more difficult for a city that was already struggling.

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